SARONI'S
THEORY OF HARMONY

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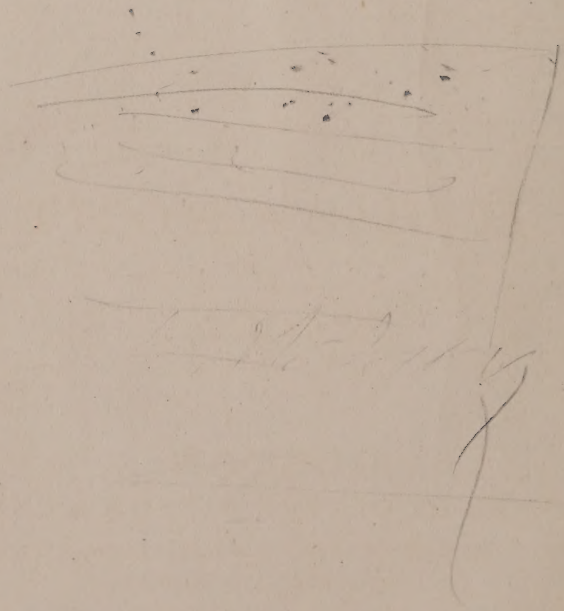

ANALYTICAL

THEORY OF HARMONY,

AND

MUSICAL COMPOSITION.

By

H. S. SARONI.

VOL I.

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A. B. KIDDER & SON'S MUSIC TYPOGRAPHY.

THEORY OF

HARMONY AND MUSICAL COMPOSITION.

INTRODUCTION.

When all the tones in music are arranged according to their difference in pitch, they present a series of about one hundred sounds, equidistant from each other. The distance from any one sound to the next one, above or below, is called:

A Half-Step.

Every thirteenth sound of this series seems to be almost indentical with the first; *i. e.* although much higher in pitch it is in perfect tune with it. From "accoustics" we learn that the vibrations of this first and thirteenth tone are as 1 to 2, so that if any one tone makes 100 vibrations in a Second, its thirteenth (counting upwards) makes 200 vibrations in the same time. Thus we can divide our series into groups of twelve tones, the first of each group doubling the vibratory number of its predecessor.

Of these groups we shall select one at random for further consideration. The first thing that will strike us is, that without the thirteenth tone we have a very unsatisfactory series of tones, but that *with it*, we have a tone-chain equally satisfactory in its ascending or descending direction, resting, as it were, either on the first or thirteenth tone. This Key-stone of our musical fabric we shall call:

The Tonic.

Now if this progression from the higher to the lower Tonic, or from the lower to the higher, is so satisfactory, and if the two Tonics are the Alpha and the Omega of this motion, why not pass from one to the other in larger steps?

Beginning at the lower Tonic, we ascend in various ways, skipping now this, now that tone, until at last, we stumble upon a manner of progression, satisfactory alike in its ascending and descending motion, yet requiring only seven steps from Tonic to Tonic. Representing the lower Tonic by 1, and the upper by 8, we might illustrate this tone chain thus:

1—2—3–4—5—6—7–8.

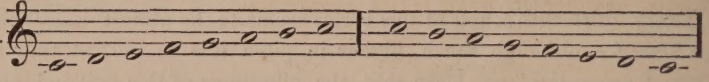
We can see at a glance that our steps are lacking symmetry of size and order; but this very irregularity gives character to our tone-chain, and enables us to distinguish it from others similarly constructed. The larger distance, as between 1 and 2, 4 and 5, 6 and 7, we shall call

A Whole Step, or Step;

and this particular tone-chain, with half-steps between 3 and 4, and 7 and 8, we shall call

A Major Scale.

In musical notation this scale takes the first place, i. e. it absorbs the lines and spaces of the stave, forcing other tones to make use of prefixes, such as sharps, flats, &c, if they are to be recognized at all. Here then

No. 1. 

is our first scale: *c*, *d*, *e*, *f*, *g*, *a*, *b*, *c*, in which the lower *c*, is the Tonic, and the higher *c*, its OCTAVE, or eight degrees higher.

It is worthy of remark that the vibratory proportions of the tones of the major scale are of the simplest kind.

Thus $\frac{2}{1}$ = Octave, or 8th tone of the scale.

$\frac{3}{2}$ = 5th " " " "

$\frac{4}{3}$ = 4th " " " "

$\frac{5}{4}$ = 3rd " " " "

$\frac{5}{3}$ = 6th " " " "

$\frac{9}{8}$ = 2d " " " "

$\frac{15}{8}$ = 7th " " " "

while the proportions of the Tonic and the tones ejected from the scale are much more complicated. Thus *c* and $c\sharp$ is $\frac{25}{24}$ § 2.

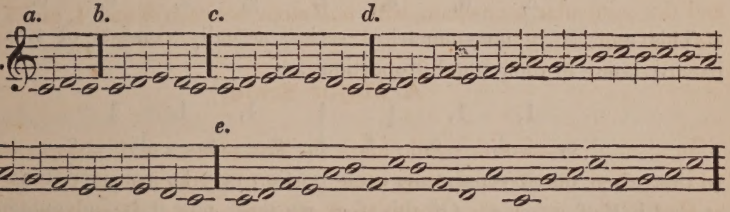
There is, besides the resting on the Tonic, and the simplicity of vibratory proportions, another feature in this scale which plays an important part in all our future investigations. It is the connection which seems to exist between any one tone and its next neighbor, either below or above. This enables us to change the direction of our progression at any point, so that whether we reach the upper Tonic (Octave) or not, provided we end upon the Tonic, a satisfactory result seems to have been reached.* This connection is called

Melodic Connection.

We shall return to it in the course of our study.

* Here at *a*, *b*, *c* and *d*, we give various fractions of, and turns in the scale, which seem to be complete, because all end in the Tonic and are uninterrupted in their connected progression.

No. 2.



At *e.* we skip from tone to tone, and although ending with the Tonic the series is absolutely unsatisfactory, owing to lack of connection.

PART I.

THE SCALES.

CHAPTER I.

THE MAJOR SCALE.

It was the elimination of certain tones in our first group of thirteen tones which resulted in the major scale, and left us the following combination of steps and half-steps:—

1, 1, ½, 1, 1, 1, ½

c, d, e, f, g, a, b, c.

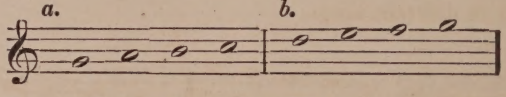
This apparently unsymmetrical series, actually consists of two halves exactly alike in their tonal proportions:—

1, 1, ½ | 1, 1, ½

c, d, e, f, | g, a, b, c.

so that when taken separately, each portion may be considered as first or second half of a scale. Of this fact we shall now take advantage. We shall take *g*, *a*, *b*, *c*, the second half of the above scale, and consider it as the first half of a new scale. By adding to it four notes:

No. 3.

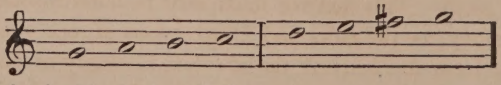


we have certainly the semblance of a scale. The notes progress in

Diatonic Order,

i. e. by degrees, from low to high, but the tonal proportions of the new section (*b*) do not agree with those of the old section (*a*), until we eject the tone *f*, and substitute for it a higher tone, which, to preserve the diatonic succession of the notes, we indicate by a sharp (♯) before the note. This is sometimes called "elevating" or "raising" the tone, when in reality we have substituted an altogether different tone. However, we have succeeded in forming a new major scale:—

No. 4.

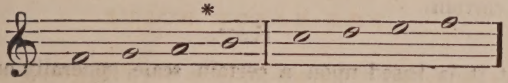


which, having G for its Tonic, is called

The Scale of G.

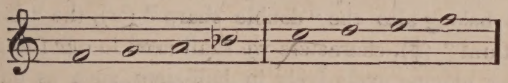
By taking the second section of this scale (G), and adding to it four notes, with a sharp before the penultimate note, we gain the scale of *D*. The continuation of this process will give us the scales of *A*, *E*, *B*, *F*♯ and *C*♯. Every note of our first scale (No. 1) has now been changed by means of a sharp, so that in that direction we can go no further. But we can take the first section of the scale of *C*-major, and consider it as the second of some new scale. We should then have to add the lower half:

No. 5.



On investigation we find that the distance between the third and fourth tone (*) is too large. Hence we substitute for the fourth a lower tone, indicated by "a flat" (♭), and the result is the major scale of *F:*

No. 6.

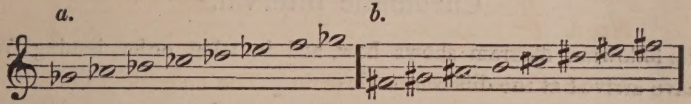


The continuation of this process (turning the first section of one scale into the second section of another), results in the scales of *B*♭, *E*♭, *A*♭, *D*♭, *G*♭, and *C*♭, giving as many scales with flats as we had with sharps.

Now though the notation of these scales differs in every instance, the tonal characteristics of some of them are identical. Thus the pitch of the scale of *G*♭ (No. 7 *a*,) and that of *F*♯ (No. 7, *b*), are the same, although expressed with different notes.

a. *b.*

No. 7.



This peculiar condition is called

Enharmonic,

and refers to any relation or combination of tones expressed in different characters.

We may now sum up the result of our first labor. We have discovered fifteen major scales, and as we constructed them all according to one model we know them to be exactly alike in tonal relation, however differing from each other in pitch. This fact we must bear in mind throughout the entire study of Harmony, as the rules and illustrations of one scale apply to all of them. We have also learned the absolute necessity of flats and sharps if we would preserve the diatonic succession of our scales. In notation,

however, for stenographic reasons, these sharps and flats are not placed before the notes. They are placed at the beginning of the line, and as they indicate the particular scale upon which a composition is based, they are spoken of as

"The Signature"

of a scale. Of the composition itself, which must necessarily move about within the range of a certain scale, or must make use of the tones of a certain scale, sometimes to the exclusion of all others, we say that it is written in a certain

Key,

meaning, that it is based upon a certain scale, generally ending with the Tonic of that scale.

Sharps and flats, not necessary to the determination of a key, are called

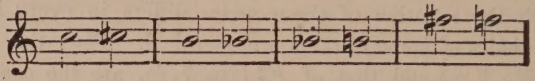
Accidentals.

To this class belong also the "double sharp" (×), the "double flat" (♭♭), and the "natural" (♮), characters we shall need in our future exercises.

Tone-chains moving exclusively in half-steps, such as our first group of thirteen tones, are called

Chromatic,

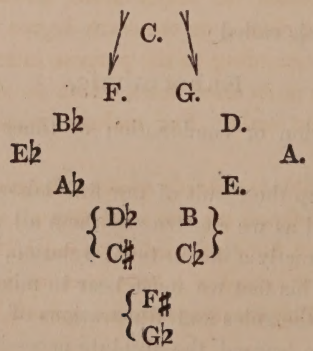
and the distance between two sounds, created by an accidental

No. 8. 

is called a

Chromatic Interval.*

The following diagram shows how, and in what order, issuing from *c*, we have arrived at the different scales.



* For explanation of "INTERVAL" see page 27.

From the very fact of each scale being composed of the halves of two other scales, it is evident that each scale must stand in the most intimate relations to, at least, two others.

Thus the scale of *C* consists of the second section of F, and the first section of G.

C, D, E, F | G, A, B, C.
F, G, A, B♭, C, D, E, F | G, A, B, C, D, E, F♯, G.

Both these scales are consequently related to *C*, but not to each other. *G* stands in the same relation to *C* and *D*; *F* to *C* and *B*♭; *D* to *G* and *A*.

Besides this relation to other scales there exists in every scale a certain connection between its tones, based upon their diatonic succession (p. 11) This is owing to the current of the scale itself, which whether ascending or descending, starts from and ends with the Tonic. The change of direction does not interrupt this flow. It is different, however, when the diatonic progression is interrupted. In that case a gap occurs, which has to be bridged over by other means, or else, instead of a continuous tone-chain we shall have a disjointed accumulation of tones without aim and without meaning.

CHAPTER II.

THE MINOR SCALE.

History has brought down to us a variety of scales, differing in their internal arrangements of steps and half-steps. Of these we have retained in our modern system, besides the major scale, already spoken of, only the minor scale. Its Tonic rests upon the sixth degree of the major scale, and its construction varies according to the purpose intended. It has, however, one permanent feature in its third tone, which is always a half-step lower than that of the major scale. For melodic reasons the other intervals*

* The term "interval," although strictly speaking, designating the distance between two tones is also used to designate the tone which determines the interval. Thus *c-e* is an interval of a major Third, but *e* is also called the major Third of *c*. In the same way we speak of the intervals of a chord or a scale, when we really mean the tones which determine the intervals. They are always counted upwards, and always from the lowest note of a combination.

(p.15) are modified, sometimes this, sometimes that way. For harmonic reasons the following form has been adopted in Theory:

1, ½, 1, 1, ½, 1½, ½.
a, b, c, d, e, f, g♯ a.

It always has the same signature as the scale, upon the sixth note of which it is based, and is called its

Parallel.

It is evident that the minor scale has none of the symmetry of the major scale—a feature which distinguishes it materially, not merely in melodic respects, but in harmonic respects also from its parent scale. We here append a Diagram of the major scales with their Parallels:

e♭, *b*♭, *f*, *c*, *g*, *d*, *a*, *e*, *b*, *f*♯, *c*♯, *g*♯, *d*♯.	}	Minor.
G♭, D♭, A♭, E♭, B♭ F, C, G, D, A, E, B, F♯.	}	Major.

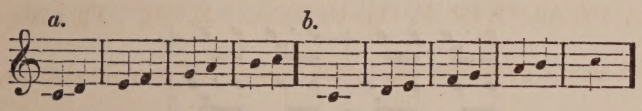
all of which should be written out by the student and committed to memory.

PART II.

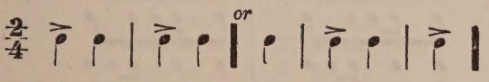
RHYTHM.

INTRODUCTION.

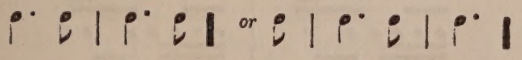
The mere accumulation of tones, however melodically well connected, does not constitute music. The very scale is only satisfactory when its tones are alternately accented, and when the final Tonic is also the accented note, or falls upon the accented part of a measure.*

No. 9. 

It is not our object here to enter upon a dissertation on Rhythm, but to develop from it the means to prosecute our study. For this reason we shall take it for granted that the student is familiar with the value or duration of notes, and begin our labors at once with the simplest rhythmic form. This we see in No. 9, *a*, where each first note of the measure is accented. At *b* the same alternation exists, but the scale begins upon the unaccented (up-beat) and ends on the accented part (down-beat) of the measure. This alternation is called "Double time." We will express it by



By augmenting the duration of the accented note we obtain



* In this sense the accented note is called:

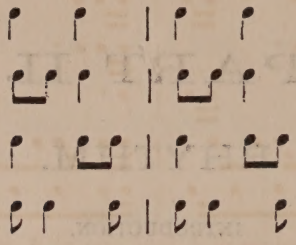
Thesis;

not to be mistaken for the Thesis of the Period. The unnaccented note is called:

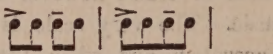
Arsis.

The same names are also used to imply the part of the measure upon which the accented or unnaccented notes are placed.

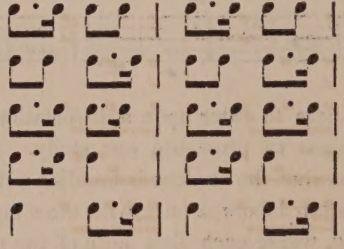
Resolving one of the quarter notes into eighths gives us the following forms:



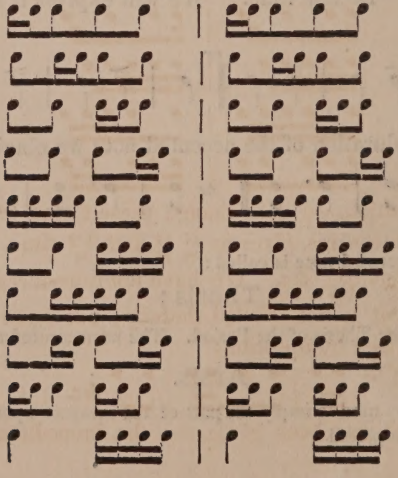
Resolving the second quarter also into eighths would give us:

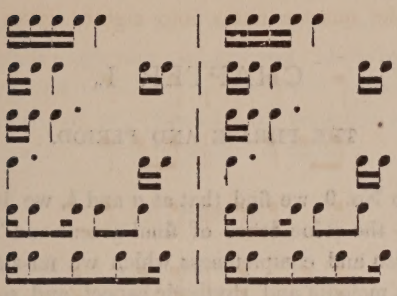


with alternate accent—a monotonous movement which may be varied by the dot:

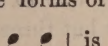
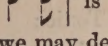


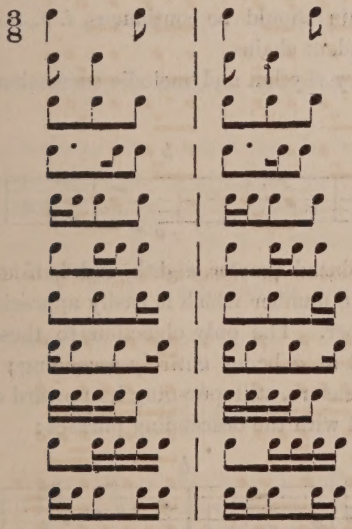
The introduction of Sixteenth notes adds greatly to the variety of our rhythmic forms.



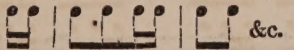


By combining two measures of $\frac{2}{4}$ into one of $\frac{4}{4}$ we have compound time, and as we may combine two different forms of $\frac{2}{4}$ into one $\frac{4}{4}$ time, there seems to be no limit to the variation of these rhythmic forms.

From one of the forms of double time:  the transition to triple time  is easy and natural. From this fundamental form of triple-time we may develop the following forms:



By doubling the duration, we can change these forms to $\frac{3}{4}$ time; combination of 2, 3, or 4 measures, gives us $\frac{6}{8}$ $\frac{9}{8}$ and $\frac{12}{8}$ time. Reduction of duration would give us $\frac{3}{16}$ &c. We have not introduced "Rests," because the Rhythmical accent is not affected thereby; nor have we illustrated the variations to be obtained by up-beats:

 &c.

But enough, we think, has been given, for the immediate necessities of the student.

CHAPTER I.

THE PHRASE AND PERIOD.

Returning now to No. 9, we find that at *a* and *b*, we begin and end with the Tonic, but that the coincidence of final accent and Tonic at *b* gives to the tone-chain a finish and completeness which we miss at *a*. A formation so satisfactory in its melodic and rhythmic aspect, and so complete in itself, is called

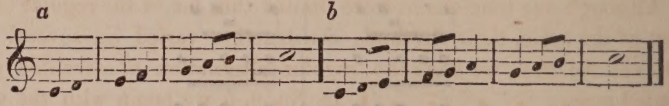
A Phrase.

But we are not confined to the strict adherence to either rhythmic or melodic uniformity. We have to keep in view but three points:

1. That the tone-chain should end upon the Tonic;
2. That the Tonic should fall upon an accented mensural part, and
3. That the tone-chain should be continuous, *i. e.*, not cut into two or more separately independent chains.

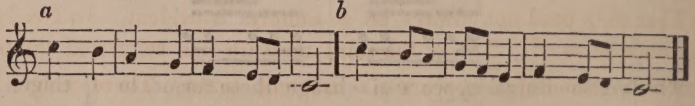
Otherwise we can vary rhythm and melodic succession, as fancy dictates. Here are two phrases:

No. 10.



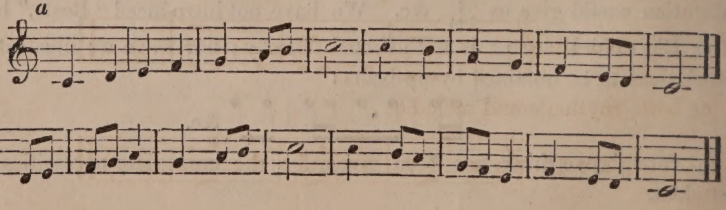
in which we have introduced quarter, eighth, and half-notes. Each phrase occupies four measures, a number which is easily appreciated on account of its being an even number. The only objection to these phrases is their one-sided direction, that at *a* being entirely ascending; that at *b*, though wavering in the third measure, still pursuing its upward course. The same objection might be found with the descending phrases:

No. 11.



But when we combine the two:

No. 12.



all our objections are met. We have now a tone-chain leading to the upper Tonic, as a climax and temporary point of rest; then, by way of anti-climax descending again to, and ending upon the lower Tonic. It is evident that these formations consist of two phrases, each complete in itself, yet forming only a part of the whole. Such formation is called

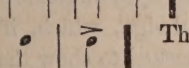
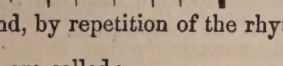
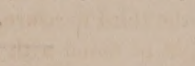
A Period,

and the phrases constituting it are called

Thesis and Antithesis, or Phrase and Counter Phrase, or Antecedent and Consequent phrases.

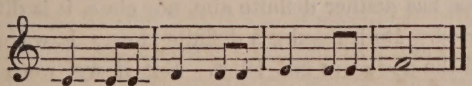
CHAPTER II.

MELODY, DESIGN, SEQUENCE.

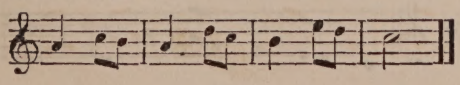
Although our tone-chains were limited thus far to the regular tone-succession of the scale, their rhythmic construction varied on several occasions. Thus in No. 9, *a*, we have the regular alternation of accented and unaccented notes:  In No. 9, *b*, we begin with the unaccented note:  The alternations are consistently carried to the end, by repetition of the rhythmic form:  Such forms are called:

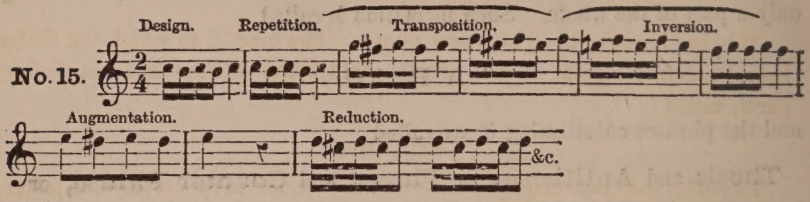
Designs.

That they need not always be so uniform is evident. In No. 12, *a*, the rhythmic form of the third measure has suggested the period *b*, in which this design appears six different times. These designs may be strictly rhythmic:

No. 13. 

or both, rhythmic and melodic:

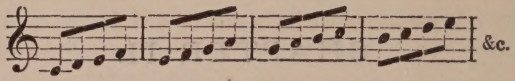
No. 14. 

It is the repetition of these designs which constitute the larger phrases, periods or compositions. They may be repeated strictly, or may be transposed, or its tonal succession may be reversed, or its rhythmic value may be reduced or augmented. Here are illustrations

of the different treatments.

A repetition of a design, when leading to no distinct ending is called

A Sequence.

Such a one is here constructed out of the first four notes of the scale.



It is not our object here to develop the formation of designs, although we recommend the practice of it to the student. Ample material has been given on p. 18 and 19.

A tone-chain rhythmically and tonically regulated is called:

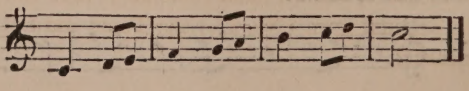
A Melody.

It is not sufficient, that it should be based upon diatonic succession, but it should also contain a certain definite design, which, if not retained throughout, should at least be sufficiently marked to show that the composer's mind had it in view, as the main feature of his composition.

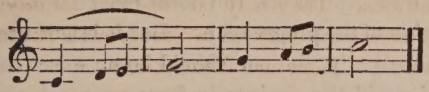
CHAPTER III.

THE FORM OF PHRASES AND PERIODS.

If the sequence has neither definite aim, nor close, it is different with the Phrase and Period. Both require a definite close. It was on this account that we changed the design in No. 10, *b*. But if we were determined to keep to the design we might go beyond the Tonic and return to it:



or if desirous to retain the regular scale we might change the design, thus:

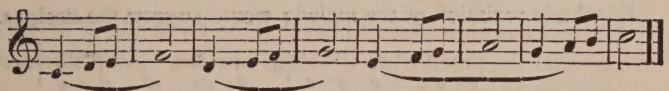
No. 18. 

This has brought to light a new phase. The tone *f*, to which the design leads us, forms a point of rest which divides the Phrase into two distinct parts, called:

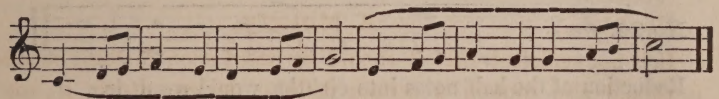
Sections.

The difference between the phrase and section lies in the close,—the former being tonally and rhythmically satisfactory, while the latter presents only a rhythmic point of rest.

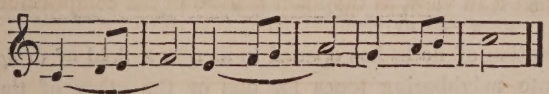
In No. 18, the design was forced upon us because we cared not about transgressing the limits of the octave. This design, by transposition can aid us to extend the form of the phrase, so that instead of a phrase of 2 × 2 measures we have one of 4 × 2.

No. 19. 

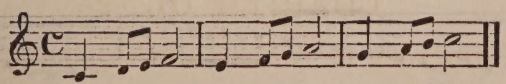
A slight variation of the design gives us a phrase of 2 × 4 measures.

No. 20. 

A transposition to different degrees gives us a phrase of 3 × 2 measures.

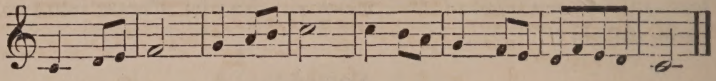
No. 21. 

Contraction of two measures into one, gives a phrase 3 measures.

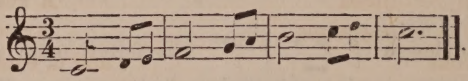
No. 22. 

Thus we have phrases of 2, 3, 4, 6 and 8 measures. Phrases of 5, 7, 9, and 11 measures may also be constructed, but they are not so easy of comprehension. The final Tonic of No. 22 did not coincide with the main accent of the measure, but we must remember that this is compound time, and that in its original form (No. 21,) the Tonic did fall upon the accented part of the measure.

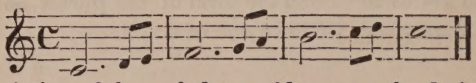
Of the period we know already that it consists of Phrase and Counter-phrase, or Thesis and Antithesis, the most essential difference of the two being in the direction of the progression. But it is not necessary that either rhythmically or melodically, the one should be an exact counterpart of the other. It is sufficient if the designs in form approach each other, so that their relationship may be traced:

No. 23. 

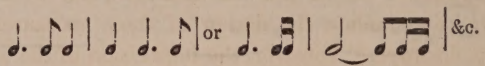
Nor is it necessary that all our formations should be in $\frac{2}{4}$ or $\frac{4}{4}$ time. Thus by augmenting the value of the first note in No. 17, we obtain

No. 24. 

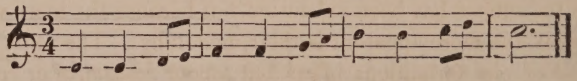
Further augmentation yields:

No. 25. 

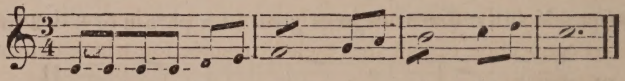
Rhythmic variation of the melody would suggest the designs.



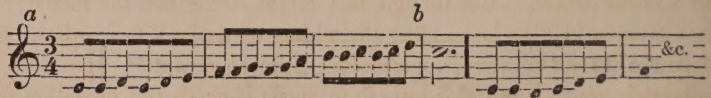
Reducing the half-note of No. 24 into quarters would result in

No. 26. 

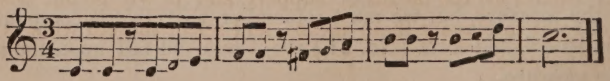
Reduction of the half notes into eighths, would result in:

No. 27. 

This reiteration of notes has opened to us a new field of designs; for we may substitute neighboring tones for one or the other of the reiterated notes.

No. 28 

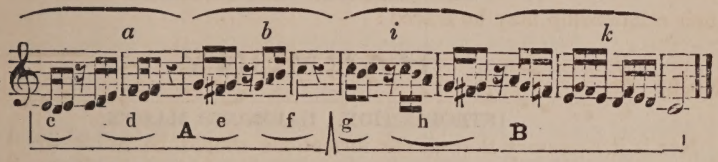
In our chapter on Rhythm we omitted the introduction of "rests." Now, that our rhythmic skeleton is getting animated by tones, we can appreciate the effects of occasional rests and silence. Let us begin by creating a gap in No. 28.

No. 29. 

The rest 𝄾 has accidentally thrown our melody into little tone-groups, neither rhythmically nor tonally complete. Less important than the sections, we shall use them as

Links.

For the formation of Phrases and Periods. Here is a Period.

No. 30.

which can be divided into

Thesis and Antithesis	A and B,
the Thesis A into sections	a and b;
and into links	c and d, e and f:
The Antithesis B contains	
two sections	i and k;
the section, i, contains	
two links	g and h.

The alien tone f♯, in the 3d and 6th measures, has been introduced the more faithfully to assimilate the design of those measures to that of the others, without destroying, however, the impression of the scale or key.

With this illustration we close for the present our rhythmic development; not because the subject has been exhausted, but because the more we extend our tone-chains, the more apparent is their monotony. The tonic as beginning and end of our formations offers but a poor resistance or contrast to the mobility of the intervening tones. In fact our formations seem a mere thread, upon which the tones are loosely strung together, without support, and without connection except that melodic connection which depends upon diatonic succession.

In looking about for support, the nearest expedient would be to accompany the melody by another voice, which might have the tones of the melody in a lower octave. But though this might strengthen the melody, it does not support it. As in building the adding of a plank to another, on top or below, does not support it, while the slightest deviation from this parallel direction braces it more or less, so in music it needs the deviation from this parallel motion which gives the actual support to our melodies. The diatonic succession will never suggest the means for this support, but we shall find it in nature. Every tone carries within it, as the science of Accoustics teaches us, the means of support, and it will be our business in the next chapter to classify these means, and select thereof what is deemed best for our purpose.

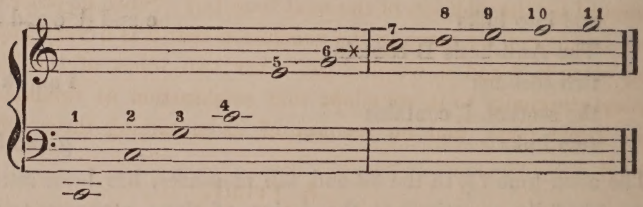
PART III.

HARMONY.

INTRODUCTION. HARMONIC MASSES.

When we take a long tube, say that of a French Horn, we can produce upon it, without artificial aid, the following tones :

No. 31.



What can we learn from this new tone-chain ?

1. That its tones divide themselves into two distinct groups, the tones 7, 8, 9, 10, and 11, appearing in diatonic succession, while those from 1 to 7 appear at irregular intervals.

2. That the diatonic group 7–11, however agreeable as a succession of tones, is very disagreeable, discordant, unbearable, when sounded simultaneously ; while on the other hand, the group 1–7 is equally agreeable to the ear, whether sounded successively or simultaneously. Its tones seem to agree or harmonize ; hence we shall call this group

A Harmonic mass.

3. The lowest tone (c^1,) is evidently the parent, or the basis of the whole harmonic mass, hence we shall call it

The Fundamental tone.

4. The tones 2–7, not merely agree with the fundamental tone, but they agree with each other ; so do the tones 7, 9, and 11.

5. The remaining tones, d and f, 8 and 10, although not agreeing with the entire harmonic mass, agree amongst themselves and with one tone of it, (g^6.) and form a second, although less extensive harmonic mass.

* We have here omitted a tone which we cannot reconcile to our scale.

We shall now distinguish our two harmonic masses, by calling the one based on *c*, (1.)

The Tonic Harmony.

and the one based on *g*, (6.)

The Dominant Harmony.

All combinations of tones, other than diatonic we shall call

A Chord.

On closer inspection of the Tonic mass, we find that it really consists of only three different tones: *c*, *e*, and *g*, while all the others are but duplications of one or the other. We also find that the first four tones, c, c, g, c, although far from dissonant, have a vagueness about them, which is only removed by the addition of the next tone (*e*.) Since no other tone removes that vagueness, we come to the conclusion that it is a very important tone, and since in 4 and 6, we find the other two tones of the Tonic mass, in closest proximity to it, we adopt that combination as fundamental form of our Tonic mass, and on account of its containing three different tones, call it

A Triad.

The Dominant mass is inferior to the Tonic mass, not merely in the number of its tones, but also in its construction: no such regular, compact mass as the "Triad" appearing in it. Moreover it is quite dependent upon the Tonic mass; for it has borrowed one of its tones for its basis; and therefore cannot stand alone, but clings to its parent harmony, ready at the slightest motion to seize the nearest part of it for support. This motion towards the Tonic harmony is called: its

Resolution.

and is completed when its tones are engulphed in those of the Tonic mass from whence it sprang. *

Names of Intervals.

* The name "*Dominant*" is justly bestowed here; for in its weakness lies its strength, and while the sturdy, independent form of the triad gives issue to nothing, we shall find the dominant harmony the source of every other harmonic formation, and the prime mover of every step towards progress. The name is also bestowed upon the fifth note of the scale, while that of "*Sub-dominant*" is given to the fourth. The third is often called "*mediant*," and the sixth is knowu as the "*Sub-mediant*." The first and eighth we know already as *Tonic* and *Octave*. The names mediant and sub-mediant are now rarely used, and of very little importance to us. Far more important to us is a knowledge of the different intervals in music.

They are measured by diatonic degrees and qualified by the terms

APPENDIX.

The main spring of the resolution of the Dominant chord lies in the relation its tones bear to one another.—Any two tones may either agree with each other, like the Tonic with its Octave, in which case they are called

Consonant;

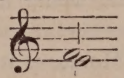
or they may disagree with each other, when they are called,

Dissonant.

The most perfect consonance must necessarily exist between two tones of the same pitch. The next is the Octave; after which comes the major and minor Third, the major and minor Sixth, the major Fourth and major Fifth.

In older theories strict lines of distinction were even drawn between the different degrees of consonancy of these intervals.

All other intervals are dissonant. The peculiarity of the dissonance is that it induces motion. Let us select the most compact form of dissonance, the minor second for illustration. The two tones forming this dissonance may be compared to two magnets with their different poles, the negative and positive. When two negative poles are brought in contact they repel each other; but let one of the magnets be inverted, so as to oppose a positive to a negative pole, and they will attract each other.—This power will be exerted, even at some distance from each other.

Thus the tones e—f,  may be compared to the negative poles of two magnets, which repel each other. This action continues until the repelling power has been neutralized, *i*, *e*, until the dissonant condition has been converted into a consonant one. In music this can be effected in various ways.

Major, Minor, Diminished, and *Augmented.*

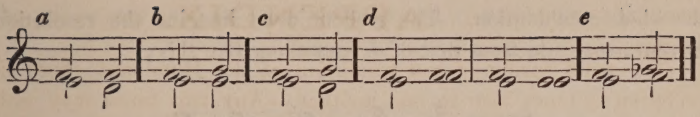
Thus c–*e* is a Third; so is c–e♭, but while the former contains 4 half-steps: from c–c♯, c♯–d, d–d♯, and d♯–e, and is called major, the latter contains but three half-steps: c–c♯, c♯–d, and d–e♭, and is called minor.

To facilitate the quick recognition of intervals we recommend to consider the lowest note of the interval always as Tonic, or first note of a major scale, then to remember that all the tones of the major scale form major intervals with the Tonic. It is then an easy matter to express the variation of contents by the terms "minor, diminished, or augmented." Thus:

as c–*d* is a major Second, c–d♭ must be minor, and
as c–*g* is a major Fifth, c–g♯ must be augmented. Or,
as c–*b* is a major Seventh, c–b♭ must be minor, and
as c–*d*♭ is less than c–*b*♭, it must be diminished.

It is of the utmost importance, however, to the student, to have these intervals at his fingers' ends, and for this purpose he ought to make out a list of intervals from every tone of the chromatic scale.

No. 31. 1



1. The upper tone may remain, while the lower moves away from it, as at *a*, into a consonant interval;

2. The lower tone may remain, while the upper moves into a consonant interval as at *b*;

3. Both tones may move in opposite direction, as at *c*.

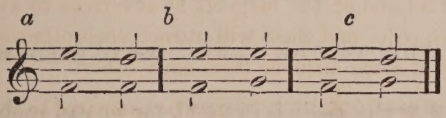
In no case do they merge into that perfect consonance, technically called,

A Unison.

as at *d*; nor do they move in parallel direction, retaining their relation as minor seconds as at *e*, both the latter motions being in direct opposition to the laws of dissonance.

By inverting these intervals, we oppose the positive to the negative pole, and the natural consequence is that the intervals become contracted. The

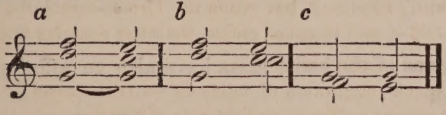
No. 31. 2



process here exemplified is the same in all the dissonances, other tones co-existing having no other effect than to determine the manner of resolution, whether as at *a*, *b*, or *c*.

Thus in the resolution of the Dominant mass the intervals not merely follow their natural inclination towards the Tonic mass, whence they sprang, but they also follow strictly the conditions of the dissonance.

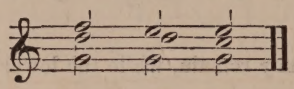
No. 31. 3



The intervals *g*—*d* and *d*—*f*, are consonant, and separately would be free to move in any direction; but in the combination of the two, a dissonant interval is formed, *g*—*f*, which we see in its more compact form at *c*. A resolution is the consequence, and the *d* determines the turn towards the tonic mass; for the natural resolution peculiar to the minor seventh is that of No. 3^1_2 *a*; *i*, *e*, the seventh descends one degree. In doing so it comes into dissonant contact with *d*, forming a major second *d*—*e*, which as it cannot move to *e*, descends to *c*, and thus enters into consonant relations with

the whole combination. The student must imagine the resolution of the Seventh separate from that of *d*, something like this:

No. 31.



otherwise, the *d*, being consonant with either *f*, or *g*, might go to *e*, or even to *g*. The *g*—*d*—*f* may also be resolved as at No. $\frac{3}{3}\frac{1}{}$ *b*, as in that case also it changes the dissonant into a consonant relation. In this latter form, we shall use the resolution for some time, chiefly because the resolution at $\frac{3}{3}\frac{1}{}$ *a*, would introduce a premature form of chord.

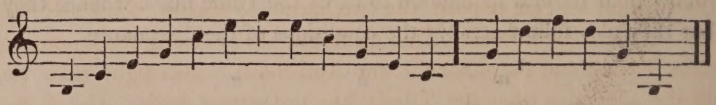
CHAPTER I.

APPLICATION OF THE NEWLY DISCOVERED MEANS.

The use of our new tone-chain is two-fold, for we can apply it harmonically and melodically.

Its tones may serve as a basis for melody, not limited to the diatonic portion thereof, but including the succession of all such tones as belong to one harmonic mass.

No. 32.



The different tones of the same mass have also an affinity for each other which we shall call

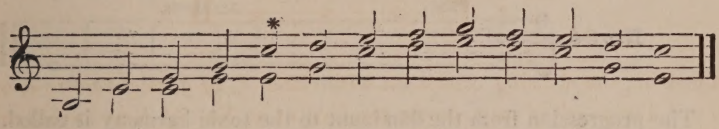
Harmonic Connection.

and which we shall not sacrifice, except when supplanted by the melodic connection of the diatonic progression. However, the melodic application of this tone-chain is of but secondary importance. What we desire is: the means of supporting our melodies, promised on p. 25.

The harmonic affinity of the tones suggests the means. Any one tone of a harmonic mass can be supported by another tone of the same mass. The word: "support" suggests that that other tone should be below the tone of

the melody, and in order to avoid confusion, we shall prefer the one next below, unless good reason exists for deviation from this rule. This would give us the following combinations:

No. 33.



We might have accompanied the *c*, with *g*, but in that case we should have had an indefinite interval (*g*—c) instead of the more definite *e*—*c*, although, at times, the flow of voices may justify us in preferring the *g*;—particularly when the *c* occurs between *g* and *e*, in which case the definite intervals on either side of it, remove the vagueness incident to the *g* as accompaniment.

CHAPTER II.

DUOPHONIC* COMPOSITION AND LIED FORM.

When last we practised the formation of Periods we could only oppose the descending direction of the antithesis to the ascending direction of the Thesis. Since then we have developed our harmonic element, and we are able to substitute a much stronger contrast.

First of all we can oppose the two harmonic masses, tonic and dominant p. 27. against each other. This we might do by using the dominant mass for the Thesis, and the other for the Anti-thesis. But right here we meet with the objection that the Thesis has no proper basis. Hence we must

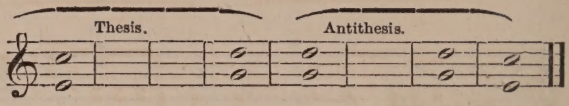
---

* We use this term to imply the simultaneous intonation of two sounds; also for arrangements of music for two voices, whether instrumental or vocal. The word "voice" here is synonymous with "melody," "tone-chain," tone-series, and takes the place of the ambiguously used word "part." We shall reserve the latter strictly for our rhythmic divisions, while for Harmony we shall use the words,

MONOPHONIC	for one voice.
DUOPHONIC	for two voices.
TRIPHONIC	" three "
TETRAPHONIC	" four "
PENTAPHONIC	" five "
POLYPHONIC	" many voices.

content ourselves with simply ending with the Dominant mass, and by way of balancing the two phrases, begin the Antithesis in the Dominant and end in the Tonic mass.

No. 34.



The progression from the dominant to the tonic harmony is called,

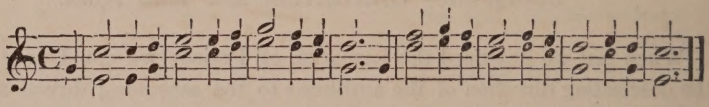
A Full Cadence.

that from the tonic to the dominant harmony

A Half Cadence.

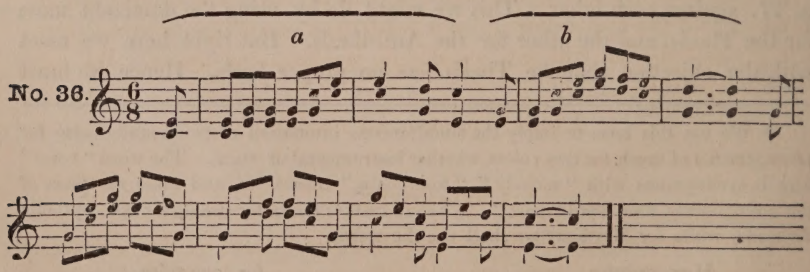
In these two cadences then we find the means of distinguishing our Phrases, the half-cadence being destined for the end of the Thesis; the full cadence for the Antithesis. But it is not necessary that the Tonic harmony should monopolize the first three measures of the Thesis, anymore than that the Dominant harmony should monopolize the first three measures of the Antithesis. It is sufficient to preserve the cadences; otherwise we may alternate the harmonics.

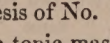
No. 35.



Our sections also, heretofore only rhythmically indicated, we can now support harmonically.

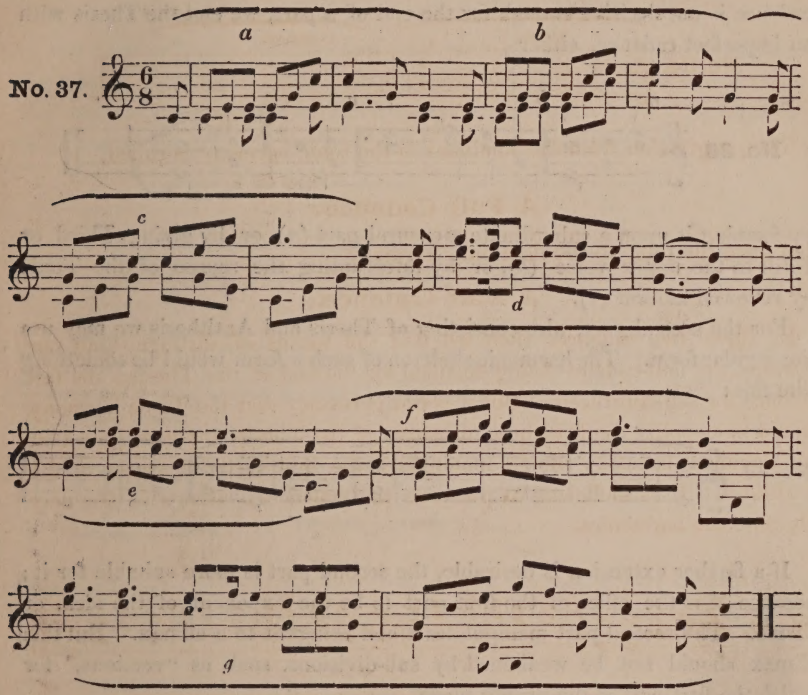
No. 36.



Thus the Thesis of No. 36. consists of the two sections *a* and *b*, of which the first ends in the tonic mass, but on an unaccented rhythmic part—the second in the dominant mass. The Antithesis consists of three strict repetitions of the design  with slight melodic modifications.

But we are not confined to 2 or 4 measures in the length of our phrases. Here

No. 37.



is a Period with a Thesis of four sections, *a*, *b*, *c*, *and d*, and an Antithesis of three sections, *e*, *f* and *g*; the latter of 4 measures. The student cannot but notice that the whole illustration is based upon one design, here and there slightly modified—but still only one design, one idea, one theme. We call such a composition

Lied. (pronounced *Leed*),

and of its form we speak as

Lied-Form,

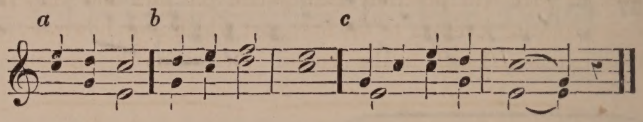
When we consider how easily we can distinguish now, by the cadences, the Thesis from the Antithesis, we can easily conceive of a form in which each phrase can, to a degree, be made independent, and yet constitute a part of the whole. Such is

The Bipartite (two-part) Form.

of the "Lied," as it appears in many songs, dances, marches, &c.

For this purpose we extend the length of our Period and promote both Thesis and Antithesis into more independent parts. For the Thesis we retain the half cadence, but give it an Antithesis of its own. As the half-cadence is not decisive enough for the end of a part, we end the Thesis with an imperfect cadence, either

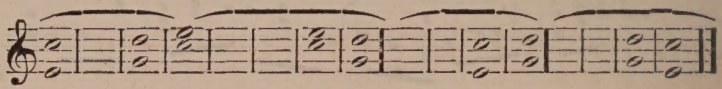
No. 38.



by forming it upon a subordinate mensural part (*a*), or by giving Third or Fifth to the upper voice (*b*), or by interrupting the repose of the Tonic by renewed motion (*c*).

For the second part, also consisting of Thesis and Antithesis we may use the regular form. The harmonic skeleton of such a form would be something like this:

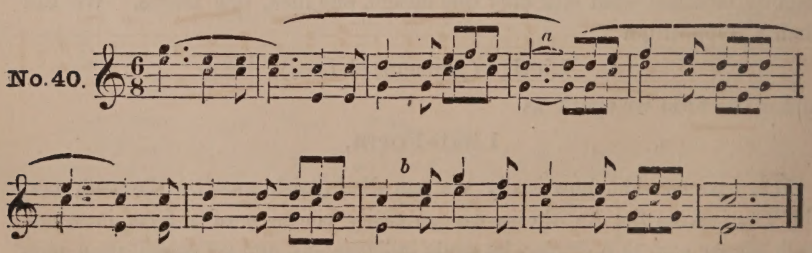
No. 39.



If a farther extension is desirable, the second part is more suitable for it; because it is the office of the first part to be the exponent of the idea, or theme. The second part manipulates it and brings it to a climax. But this climax should not be weakened by sub-divisions, such as "sections," for which the first part is the proper place.

In order to introduce such extensions, it is well to make the preceding cadence imperfect, either by transferring the Tonic to the lower voice, or by reduction of mensural value. Here

No. 40.



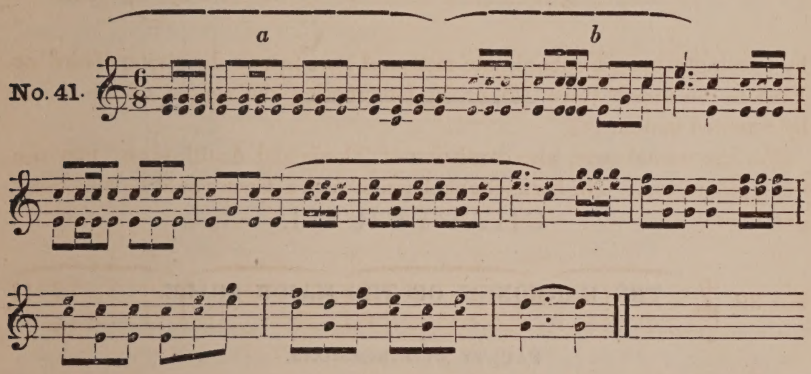
at *a*, we have a regular half-cadence. The full cadence would be at *b*, were it not for its rhythmic reduction which allows the extension to be attached to it.

By connecting the Antithesis of the first part with the Thesis of the second and treating them combinedly as a separate part, we obtain

The Tri-partite (three-part Form,)

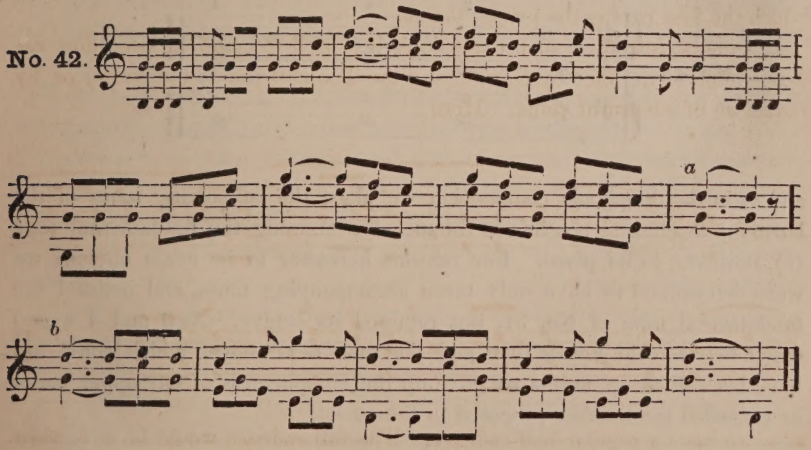
of the Lied.—In this case the first part may close in the Dominant mass, the second part will probably manipulate the idea and vary it somewhat, thus necessitating a return to the first part which now, however, (and perhaps with an extension) ends in the Tonic. Here is an illustration:

No. 41.



Its designs have been repeated so often that in the second part we shall have to give them new turns, if not invent altogether new ones. It might be formed thus:

No. 42.



with either the close at *a*, or to give it the length of the first part, with the close at *b*.—We have departed far enough from the design of No. 41, and

if we would not altogether forget it, it is time to return to it. This we can do in the Third part, which as already stated repeats the first part, but ends in the Tonic, and adds perhaps a CODA* to it.

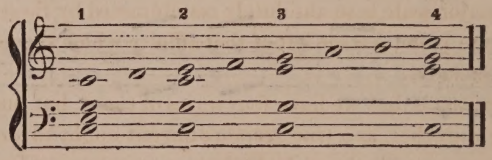
CHAPTER III.

THE HARMONIES OF THE MAJOR SCALE.

FAULTY PROGRESSIONS.

Returning now to our tonic harmony, we discover that it forms a support or accompaniment for the 1st, 3d, 5th and 8th note of the major scale:

No. 43.



and as in the duophonic composition we place the supporting tones of the harmony as close as possible to the melody, retaining the fundamental tone (*c*), however, in its place. For reasons hereafter to be made obvious we were determined to have only three accompanying tones, and omitted the fundamental tone of No. 31, but retained its octave. At 3 and 4 a gap exists between the lowest tone and that one next above, which could not have been filled up, unless we gave up the compactness of our upper tones or exceeded the number proposed in the outset.

---

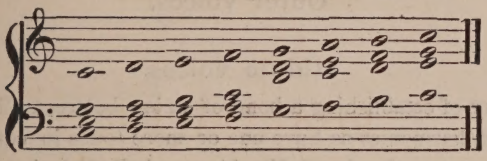
* CODA is the name of the extension of a period, particularly of the final period.

We know already that a Triad consists of three intervals: the fundamental tone, its Third and its Fifth, but we learn here that the distance of the intervals from the fundamental tone, or the order in which they appear, affects neither the character of the chord, nor the name of the intervals.

We also notice that in all these chords it is the fundamental tone that is doubled, and that the highest tone, or the tone of the melody, at 1, is the Octave, at 2, the Third, at 3, the Fifth, and at 4, again the octave of the fundamental tone.

The simplest way then to accompany the scale, would seem to be the following: i, e, to consider each tone

No. 44.



of the melody as octave of a fundamental tone, and to supply the requisite intervals, as in No. 44; or to consider each as the Third or the Fifth of a fundamental, and add the requisite tones below. Although in each case we would have different chords for the same tone of the melody, the general result would be the same; a combination of chords absolutely unbearable to the ear. One of the principal reasons for this is the fact that the melodic connection of the major scale is so absolutely counteracted by these heterogeneous chords, that there is not a trace left of that affinity which should exist between the tones of a melody.

The second reason is that we have four series of tones; but that instead of the one supporting the other, as a true accompaniment ought to do, we have four independent tone-series, distinguished (if we except the next lowest) in nothing from each other, except that one is a little higher or lower than the other, that consequently instead of four tone-series with which we set out, we have in reality only two: the melody and the third series. The fourth series we know is only the lower octave of the melody; and the second series, although so different in name and form, is identical in character of intervals with the first and fourth series. Even the third series barely escapes this reproach.

This failure teaches us some valuable lessons.

1. That in order to preserve the melodic connection we must support the melody by harmonies that have a bond of union between them.

2. That parallel series in Octaves, or Fifths are not allowable. They are called

Faulty Progressions.

or

CONSECUTIVE FIFTHS AND OCTAVES.

In order to avoid confusion, we will adopt the following names for our different tone series:

for the first or highest:	the melody or Soprano;
" second:	the Alto;
" third:	the Tenor;
" fourth and lowest:	the Bass.

The Bass and Soprano are also called:

Outer voices,

the others

Middle voices.

The best way of establishing a bond of union between different chords, is to select such harmonies as have one or more tones in common. When we now return to our chords of No. 44, we shall find that the first triad *c-e-g* connects by means of the tone *c* with the triad *f-a-c*, and by means of the *g*, with the triad *g-b-d*. This reminds us that our scale of *c* is composed of the second section of the scale of *f*, and the first section of the scale of *g*, and since the Tonic triads of those scales are identical with those upon the 4th and 5th note of the scale of *c*, and since we called those scales the relatives of *c*, we shall also call these chords "related" to the chord of *c*.

Further investigation discloses the facts that not merely their outer form, but their inner proportions also, are alike: that they each consist of fundamental tone, Third and Fifth, and that in all of them, Third and Fifth, are *major*. Such triads we shall call

Major Triads.

We next find that three of the remaining Triads bear the same relation to each other; that the Triad *a-c-e*, on one side is related to *d-f-a*, and on the other to *e-g-b*, and that all three consist of fundamental tone, major Fifth and *minor* Third. We shall call them

Minor Triads.

Finally there remains a Triad, consisting of minor Third and minor Fifth; related to several of the Triads already mentioned, but so different in its inner proportions that we shall content ourselves by simply naming it, and since its tonal contents are less than those of either major or minor Triad, we shall call it

The Diminished Triad.

It is scarcely necessary to observe, that since all the major scales are constructed alike, we shall find the same number of triads and the same kind of triad on the same degree, in every scale.

In order to remember the degree of the scale, upon which our Triads were constructed, the difference in their intervals, and for convenience in writing, we shall indicate them thus:

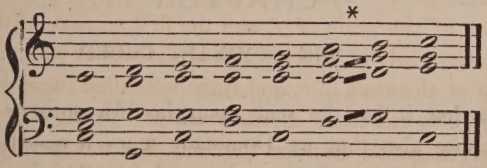
those on the 1st, 4th, and 5th degree	I. IV. and V.
" " 2d, 3d, and 6th "	II. III. and VI.
and the diminished Triad on the 7th, by	VII.

Returning now to our three major Triads

c — e — g,
f — a — c, and
g — b — d,
c d e f g a b c.

we find that they contain the entire major scale, hence we shall attempt to accompany it by these chords and no others.

No. 45.



All the Triads are connected by mutual tones, except the 6th and 7th (at ×.) But not merely the connection of the chords is broken, we have parallel Fifths between Tenor and Bass, and parallel Octaves between Alto and Bass. The mere parallel motion* of the offending voices could easily

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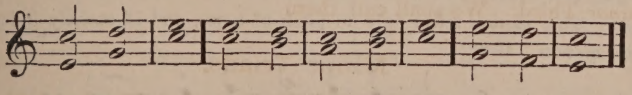
* There are three kinds of motion that can take place between any two voices.

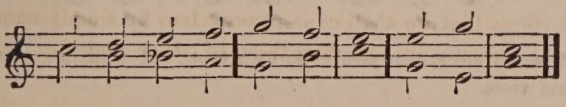
1. PARALLEL MOTION, when the two voices move in the same direction.

No. 46.



2. CONTRARY MOTION, when the voices move in opposite direction.

No. 47.



be changed into contrary motion, but that would leave us still without connecting link. We cannot give up the Triad of *g*, because no other major Triad contains the *b* of the melody, but we can retain the *f* of the preceding chord, thus by oblique motion avoid the parallel Octaves, and introduce a chord, thus far only known to us in an imperfect form, as Dominant mass (g-d-f,) in its complete form as

Dominant Chord.

g — b — d — f.

But with the introduction of this chord a new consideration presents itself. We know that the Dominant harmony is the offspring of the Tonic harmony, that it must resolve into it, and the question remains:

How is this resolution to be effected?

CHAPTER IV.

THE DOMINANT CHORD.

We know that it has its seat upon the fifth note, or Dominant of the scale; we know also that as Dominant mass it resolved into the Tonic harmony. The addition of a new interval (the Third) does not interfere with this inclination, but on the contrary, intensifies this desire for the Tonic harmony. As the whole chord has its peculiar leaning towards the Tonic harmony, so has each separate interval of the Dominant chord its own way of reaching it. Consisting as it does of a fundamental tone, Third, Fifth, and Seventh, the fundamental tone seizes the fundamental tone of the Tonic harmony; the Third ascends one degree, resolving into

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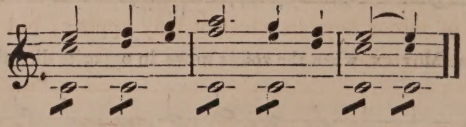
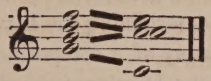
3. Oblique Motion, when one voice remains stationary, while the other ascends or descends. This motion refers only to pitch of tones, and is entirely independent, of rhythmic motion. Here:

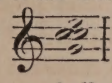
No. 48.



the first and second voices run parallel to each other, but in oblique motion with the third or lowest voice.

the Octave of the Tonic;* the Seventh descends one degree, into the Third of the Tonic, and the Fifth may either ascend to the Third or descend to the Octave of the Tonic. This in the key of *c* would give us:

No. 49. 

The fundamental of the Dominant chord, according to the proceeding suggested on p. 29, might have held on to the *g*, which, as we know, is the Fifth of the Tonic Triad, but in that case it would have resulted in a formation;  of which, as yet, we know nothing. The time will come when we shall make use of this privilege.

The resolution of No. 49, also results in a formation entirely new to us. It is the Tonic triad, without Fifth, and therefore incomplete. Can we allow such chords to pass muster? The current of the voices was so decided and natural that the ear scarcely noticed the omission. Moreover, the Fifth of the Triad is so vague and indecisive an interval—not even determining whether a chord be major or minor (p. 27.)—that we shall not hesitate in its omission whenever occasion calls for it, or rather whenever sufficient reasons induce us.

It is different however with the Third. The Third determines the character of the Triad. Our first harmonic mass (No. 31) was vague until we arrived at the 5th tone, which told us that we had before us the harmony of a major Triad. But this same harmonic mass also teaches us that the Third of the Triad is the last interval to be doubled, for while the fundamental tone appears three times (1, 2, and 4,) the Fifth twice (3 and 6) the Third appears but once (5.)

For this reason we allowed the *d* in No. 49, to go to *c*, doubling the octave of the fundamental, rather than go to *e*, doubling the Third of the Tonic Triad.

There is another feature about the Dominant chord, possessed by none other. All our Triads may be found in two or three different keys, on so many different degrees of the scale; but the dominant chord is found only on the fifth degree of one single scale, and unerringly points to the Tonic. Thus the very Triad, c-e-g may be put down as C: I, or G: IV, or F: V, to say nothing of minor keys in which it may appear; but the chord g-b-d-f is C: V and nothing else.

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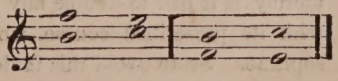
* Because with the seventh it forms a dissonance, contractive in this form, and consequently repelling in its inversion as augmented Fourth. 

Now since it is exceedingly important that a musical composition should become identified with some particular key, and since the end of a composition, of all points, is the one at which we ought to know in what key we are, the dominant chord with its resolution into the Tonic harmony is the most decisive means of determining the key, and hence is used, almost exclusively for the final harmony of a composition.

The progession from the Dominant chord to the Tonic triad is called

A Cadence.

which is

Perfect.

when its outer voices end in the Tonic, and

Imperfect.

when Third or Fifth of the Tonic appear in the outer voices.

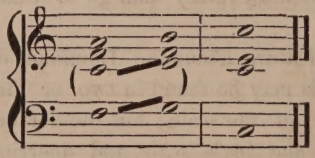
We are now prepared to resume the harmonization of the Major Scale.

CHAPTER V.

THE MAJOR SCALE. (Continued.)

By retaining the *f* for the seventh tone of the scale, we have certainly established a connection with the preceding chord, and have gotten rid of the parallel octaves, but

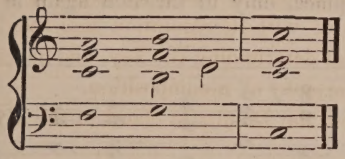
No. 50.



there still remain the parallel Fifths between Tenor and Bass. We might lead the Tenor from *c* to *b*, and thus by contrary motion avoid the dangers of parallel motion. But the Tenor cannot long remain there: for not merely is it bad to double any Third, but the Third of the Dominant chord with its prescribed course, would force us into parallel octaves with the soprano. So to avoid this faulty progression, and to secure the Fifth in the

Dominant chord, which we had nearly and uselessly sacrificed, we lead the Tenor from *b* to *d*, ere the other voices had time to resolve:

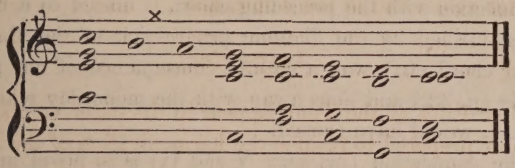
No. 51.



and thus complete the harmonization of the ascending major scale.*

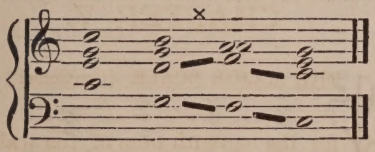
Whether the same expedient will serve us in the descending scale, remains now to be seen. Here the

No. 52.



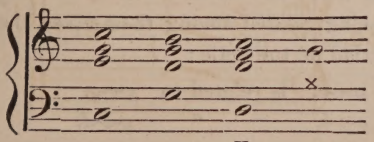
cross (×) again gives warning of faulty progressions and severance of harmonic connection. With the *b* and *a* of the melody staring at us, we cannot avail ourselves of the Dominant chord with its resolution into the Tonic harmony. Contrary motion might overcome the

No. 53.



faulty progression in one place, only to reproduce it in another, without establishing the harmonic connection. It is evident, one or the other of the chords, perhaps both, must yield. Here

No. 54.



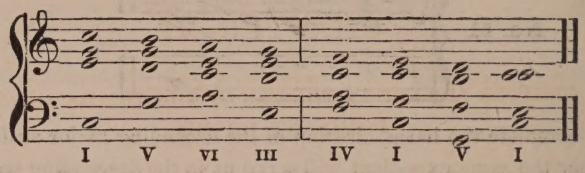
* When one voice takes more than one Tone of a chord, while the other voices are stationary, as the Tenor in No. 51, such tones are called

Harmonic by-tones.

In Supplement I. the student will find some melodies on which to practice the harmonization of the ascending scale.

we have changed the second chord by substituting one of the minor triads (II) of the scale (p. 32.) The connection is now established, the faulty progressions avoided, at one place, only to threaten again at ×. Here

No. 55.

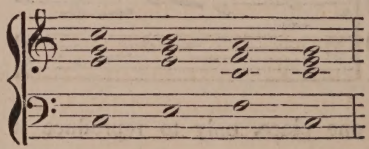


we substitute another of the minor chords (VI), which although without *harmonic* connection with the preceding chord, is united to it by the melodic connection established by the diatonic progression of the Bass. The succeeding minor chord (III) was a natural consequence of our preference for related chords (p. 32,) and does away with the monotony which the substitution of C: I. would have caused.

The melodic connection (between V and VI) is so novel and so pleasing that we immediately repeat it at the fourth and fifth degree of the scale, (III. IV.) after which we close with the related chords I. V. I.

In all these changes we allowed the second chord *g-b-d* to remain. But since we once admitted the succession of non-related chords, we might avail ourselves of this expedient as well a little sooner, by changing the harmony of the second note:

No. 56.



ending as in No. 44.

Of the minor triads here introduced, we have nothing particular to say, except that besides being related among themselves, they are also related, each one to a major triad of the scale:

a-c-e, is related to *c-e-g*.
e-g-b, " " *g-b-d*.
d-f-a, " " *f-a-c*.

The attentive observer, ere this has discovered that the fundamentals of the minor triads are the Tonics of the minor scales which on p. 16, we designated as "parallels;" and for this reason we shall also know these Triads as

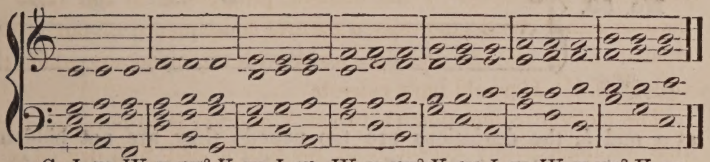
Parallel Triads.

CHAPTER VI.

GREATER LICENSE IN THE USE OF THE TRIADS AND THE DOMINANT CHORD.

Since each tone of the melody may be the Octave, Fifth, or Third of a fundamental tone, we can accompany the scale by the following chords:

No. 57.



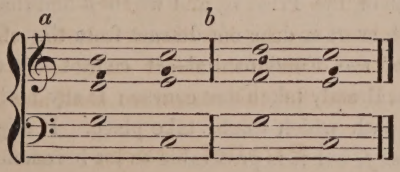
C; I. VI. IV. II. VII°. V. III. I. VI. IV. II. VII°. V. III. I. VI. IV. II. VII°. V. III.

we are familiar with all these chords, except the diminished Triad VII°, from the use of which we shall for the present abstain. But this acquisition of wealth embarrasses us; for amongst two or three different chords there must be a choice, and it is not always easy to decide which is best.

Our first care must be to preserve the connection of, and avoid faulty progressions between the chords. Consequently we shall remember the affinity between IV, I, and V.—II, VI, and III.—I and VI, IV and II, V and III.—IV and V, II and III, I and II, III and IV, V and VI, have no harmonic connection, and a too frequent use of such successions is apt to destroy the unity of our whole composition.

The Dominant chord with its four tones is naturally restricted to such parts of the melody, as allow of its proper resolution. Yet, at one place, at the final cadence, we shall have to relax the rigor of those rules; for though the Fifth of the Tonic Triad is not an important interval, yet it gives to that chord a fulness and completeness which we would gladly preserve for the final chord. Here:

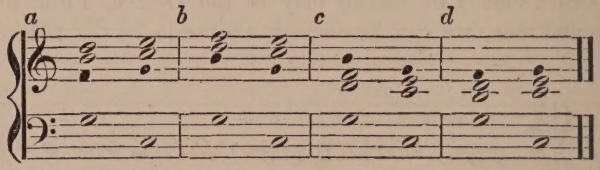
No. 58.



we see two deviations from the rule. At *a* the seventh in the Alto ascends one degree, and at *b*, the Third of the Dominant chord descends two degrees. Yet both are admissable, for at *a*, the Tenor supplies the *e* which the Alto should have taken, so that we do not really miss the resolvent tone of the Seventh, and gain by it the Fifth of the Tonic Triad. At *b*, the Alto should have gone to *c*; but that tone is already supplied by the Soprano, so that the Fifth of the Tonic is a clear gain; the more so since the deviation occurs in a middle voice, hidden by regularly progressing voices.

But it would be different in deviations like the following:

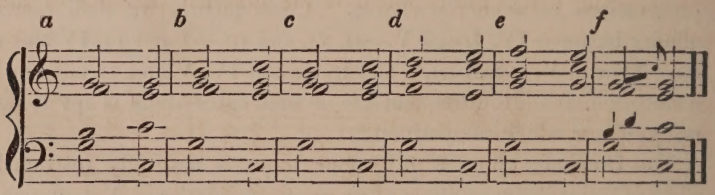
No. 59.



at *a* and *b*, the deviations are too naked; they are not hidden between parallel intervals, as in No. 47. At *c* and *d*, they are still more objectionable, because occurring in an outer voice. At *d* we have in addition to the obvious deviation a succession of parallel Fifths, between Tenor and Soprano.

There is another class of deviation which deserves some mention. We refer to the instances, in which Third and Seventh pursue their regular course, while the Fifth is either omitted, or ascends one degree.

No. 60.



At *a* and *f* the melody doubles the fundamental tone, leaving only two voices for the three remaining intervals of the Dominant chord. We might give two intervals to one voice, as at *f*; but we know already of how little importance the Fifth of the Triad is, and we shall find that its omission from the Dominant chord, as at *a*, does not detract from the efficacy of the chord. As to the Octave of the Fundamental—it cannot descend to the Tonic, because the Bass has already taken that course; to say nothing of the crossing of the other voices' path which would take place. It might go to the upper Tonic, as indicated at *f*, but it is preferable to let it remain and complete the

Tonic harmony. At *b*, *c*, and *e*, the advantage of this proceeding is even more obvious, for its upward progression would have resulted only in tones already represented by other voices, while its downward progression was prohibited by the course of the Bass.

At *d*, the melody had the Fifth of the Dominant-chord and went to the Third of the Tonic. If we had to introduce the Dominant chord at all, we had to lead the Seventh downward, and thus double the Third of the Tonic, which although not desirable is by no means inadmissible.

We are now prepared for the introduction of the Dominant chord into the harmonization of our melodies.*

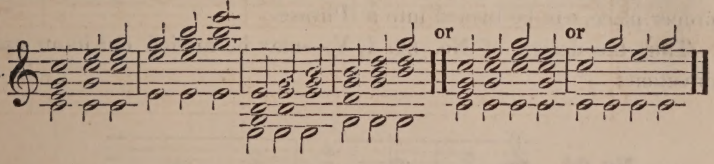
CHAPTER VII.

INDEPENDENT USE OF HARMONY.

As in our Rhythmic formations we had nothing but accumulations of tones, until the "design" brought some order into this chaos and led us to the formation of Sequences, Phrases and Periods, so in Harmony we shall drift about aimlessly and uselessly without having some power to guide and impel us.

Our first melodic design we discovered in the rhythmicized scale. Our first harmonic design can be found in the different positions of the Triad, which

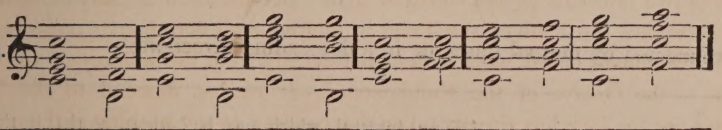
No. 61.



might be arranged in various ways.

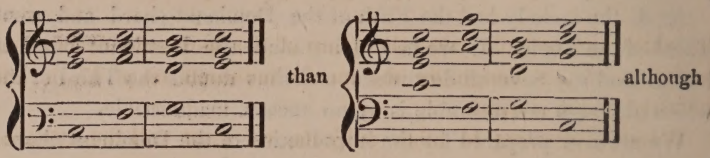
The next would be the combination of related chords in different positions.

No. 62.



* Supplement II contains melodies for harmonization with major and minor Triads, in which the licenses of the Dominant chord, as far as we know them, may be introduced.

We shall always bear in mind to connect our harmonies by each voice seizing the nearest tone of the next harmony, or by retaining the tone, if possible, as connecting link. Thus it is better to write:

No. 62. 

occasionally such effects may be desirable.

Next in order would be the parallel chords I, VI,—V, III,—IV, II,—or I, III,—IV, VI, or the non-related chords IV, V,—VI, V.

The Dominant chord, although readily combining with all the triads of the Key, on account of its prescribed resolution is not fruitful of designs.

Now when we consider that in all these designs:

1. One or the other of the chords may be repeated.
2. One or the other may be carried through the different positions.*
3. They may be rhythmically varied.
4. Each design may be extended by repetition, or
5. By addition of chords

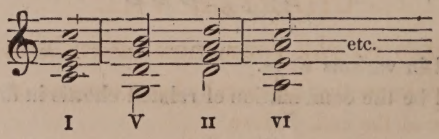
we shall have more difficulty in the selection, than in the invention of designs.

As with the rhythmic and melodic designs: a mere repetition in a higher or lower degree without definite end, forms

A Sequence,

which by the addition of the Dominant chord and its resolution, at the proper place, can be turned into a Phrase.

Thus the design of No. 62. I, V,—may be carried out in an ascending direction:

No. 64.

connected by mutual tones, or in a descending direction,

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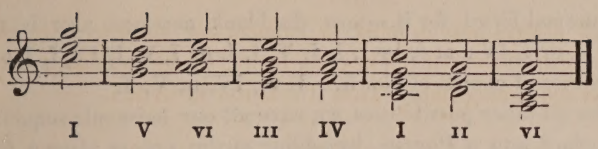
* Position refers to the different intervals which may be highest, so that in the Triad we have three positions,—Either octave, Third or Fifth in the melody—and of the Dominant chord we have four positions, *i, e,* with Octave, Third, Fifth or Seventh in the highest voice.

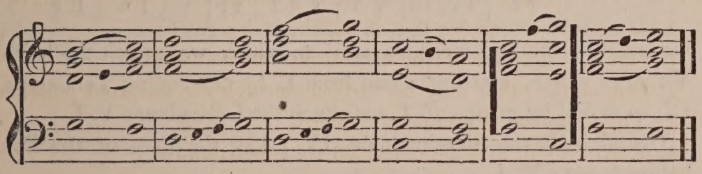
No. 65.

in which the melodic takes the place of the harmonic connection.* The variation of this design by the means indicated on p. 47, is left to the industry of the student.

Before proceeding to other subjects, we must call the attention of the student to the so-called

Covered or (Hidden) Fifths & Octaves.

Two voices may proceed in such a manner, that without really moving in parallel Fifths or Octaves, they yet produce the effect of such progressions Here

No. 66.

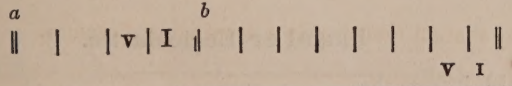


are a few illustrations. The *covered* Fifths and Octaves are indicated by small notes, and are called thus because they were rather imagined than heard. It cannot be denied that some of these progressions are disagreeable to the ear, while others are absolutely inoffensive. The way to avoid them is to have well connected harmonies: for only those are disagreeable that occur between disconnected chords, or when the voices take unnatural steps.

CHAPTER VIII.

SEQUENCES APPLIED TO THE FORMATION OF PHRASES AND PERIODS.

Of the Phrase we know that it generally has a compass of 4 or 8 measures, with a full cadence at the end. Here



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* In like manner Sequences may be formed from the Quart steps, ascending; I, IV, II, V, III, VI, &c. or descending I, IV, VII°, III,—VI, II,—V, I, &c., although the practice thereof had better be delayed until Part VI, has been thoroughly studied.

are the normal forms for it,—now the blank measures may be filled up, at *a*, by I, V, or I, IV; at *b*, by I, I, I, V, I, I, or I, V, I, IV, I, I, or we might use the series of chords of No. 57: I, VI, IV, II, V, I.

Besides all other possibilities we have all our harmonic sequences, which can be turned into a Phrase, by adding at the proper place a full cadence.

I | IV, II, | V, II | VI, IV, | II, V, | I, VI, | IV, V, | I, V, | I.

We interrupted our sequence at the 4th measure, so as to avoid the diminished Triad VII°, and by means of related harmonies brought our Phrase to a close.

The periodic Lied-form must necessarily have its Thesis and Antithesis; with half, and full cadence. Here is the normal form of a Period of eight measures.

‖ | | I | V | | | V | I ‖

Filling up the blanks by Quart-steps.

‖ I | IV, II | V I | V | I | VI | V | I V | I. ‖

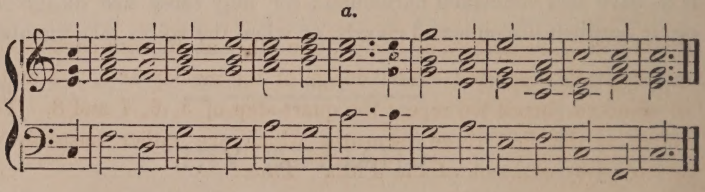
we arrive in the 3rd measure at V, to which we attach the half cadence I, V; after which, starting again from I, by descending Terz-steps, we reach IV, to which by means of I, we attach the full cadence V, I.

Occasionally the Sub-dominant IV, takes the place of the Tonic, in the half-cadence: V. I.

I | IV II | V III | VI IV | V. V | I I | IV IV | I V | I.

or an imperfect cadence takes the place of the half-cadence.

No. 67.



as at *a*, or the Sub-dominant takes the place of the Dominant in the final cadence, as at *b*. The latter is called

Plagal or Ecclesiastic.

to distinguish it from the

Authentic.

or ordinary cadence.

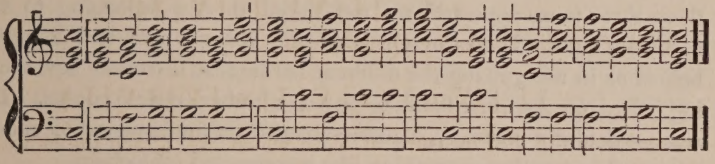
CHAPTER IX.

APPLICATION OF HARMONIC DESIGNS TO THE ACCOMPANIMENT OF MELODIES.

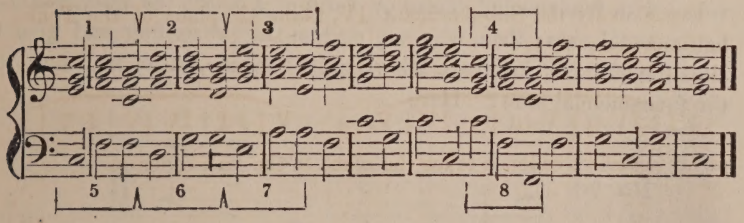
Instead of giving any particular directions we shall place side by side two harmonizations of the same melody.

No. 68.

A

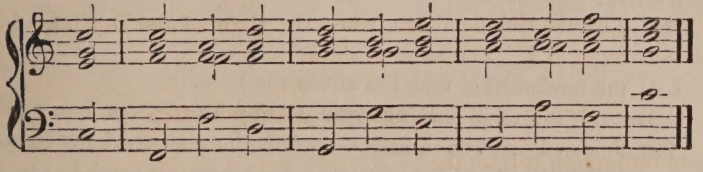


B



the one at *A*, regardless of design, the other at *B*, with such designs as the melody itself suggested. The design of the melody at 1, 2, 3 and 4, cannot be mistaken, hence we repeat the quart-step of 5, 6, 7 and 8. The middle voices of the first three measures which are rather unsteady, might be improved by omission of the Fifth. Thus:

No. 69.



and the result is: a compact harmony, a distinct aim and a flow of voices which, heretofore, it was impossible for us to obtain.

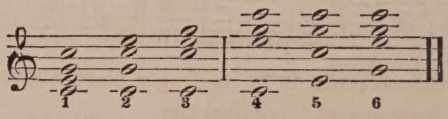
CHAPTER X.

THE INVERSION OF CHORDS.

In all our previous exercises we allowed our middle voices to cling as close as possible to the melody. But there was no actual necessity for it. In our first harmonic mass, before the triad *c-e-g* appeared in its compact form, we had it fore-shadowed by the tones *g-c-e*, and in whatever form these three tones appeared, we recognised them as belonging to the same harmonic mass. If on the one hand the compactness of the upper tones helped us in recognizing the different harmonies, it caused our accompanying voices, on the other hand, to pursue a rather erratic course. The Bass was particularly unsteady, stalking about from fundamental to fundamental tone, and preventing everything like a connected tone-chain.

The remedy of this defect lies near at hand. We have seen the upper voices with fundamental, Third or Fifth of a chord, the Bass retaining the fundamental tone; then, why not reverse the proceeding and give to the Bass the different intervals, allowing the Soprano, Alto, or Tenor, to take the fundamendal tone? Here

No. 70.



at 1, 2, 3, and 4, the Bass takes the fundamental; at 5, it takes the Third, and at 6, it takes the Fifth of the Triad. In other words; at 1, 2, 3 and 4, the chords appear in their

Fundamental Position;

i. e., the fundamental tone is in the Bass, while at 5 and 6 the chords are

Inverted.

i. e., the fundamental tone lies above the Bass.

But this inversion does not change the Triad *c-e-g* into *e-g-b*, or *g-b-d*. The tone *c* is still the tone upon which the chord, originally, was formed, hence still the fundamental tone; the tone *e*, although in the Bass, as 5, and although a Sixth at 6, is still the original Third, and the tone *g*, although a Third at 5, and in the Bass, at 6, is still the original Fifth. Consequently

in whatever position these three tones may appear, they are only different forms of the major Triad *c-e-g*.

The position of the fundamental tone determines the name of these chords. The one at 4, is called a

Fundamental Chord,

because the fundamental tone is in the Bass. The one at 5, is called a

Sexta-Chord,

because the fundamental tone, in the inversion, has become a Sixth. The one at 6, is called a

Quarta-Chord,

because the fundamental tone has become a Fourth.

The Dominant chord, also, can be inverted, and its inversion does affect, neither its resolution, nor the progression of its intervals. The fundamental tone, originally in the Bass, becomes in turn, Sixth, Fourth and Second; but in naming it we must not forget

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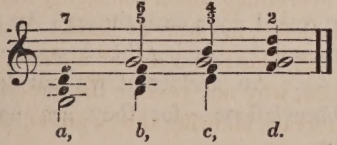
that the Seventh is of equal importance with it, hence the chord at *a*, is called the

Septima-Chord,

indicating that the Seventh is in its proper place, above the fundamental tone. The first inversion at *b*, is called the

Quint-Sextachord,

indicating the position of the Seventh by the word "Quint," the "Sexta," referring as with the Triads to the fundamental tone. The second inversion at *c*, is called the

Terz-Quartachord,

the "Terz" referring to the Seventh, the Quarta to the fundamental tone. In the third inversion, at *d*, the Seventh is in the Bass, leaving us only the fundamental tone, to remember in our name. It is called the

Secunda-Chord.

As it will be of advantage to us to express these names in figures, sometimes, we recapitulate them here, with the figures attached. The latter when used at all are generally placed under the Bass. The whole system of figuring the harmony, is known under the name of

Thorough Bass.

and has lost much of its importance in latter days, being used only stenographically by composers and authors of theoretical works. Here follow the different chords with their respective figures:

The fundamental position of the Triad, is rarely indicated by figures. But if necessity for it arises, it is marked:

3, 5, or 8, or any two of them,

sometimes all three.

The Sexta chord	is marked	6,
" Quarta chord	"	4,
" Septima chord	"	7,
" Quint sextachord	"	$\frac{6}{5}$,
" Terz-quartachord	"	$\frac{4}{3}$,
" Secunda-chord	"	2,

To these figures are sometimes added those of the intervals composing the chord, but omitted in the name; particularly when they are subject to chromatic alteration. In that case the elevation of an interval, whether by means of ♯ or ♮, is expressed by a dash through the figure (5, ♯, ♯). All other changes are expressed by placing the chromatic characters before the figures, as ♭3, ♭7, ♮5, &c. An accidental without figure, always refers to the Third. Other abbreviations—for they are nothing else—will be explained as they occur.

CHAPTER XI.

TREATMENT OF THE HARMONY AND THE VOICES.

The mere fact of two chords having a tone in common, established between them a connection with which we were contented, because we knew of nothing better. Now, however, since we can reach an interval of a chord without clinging to the melody, we can make this tie much stronger, and establish a melodic connection between the tones of each separate voice, as well, as a harmonic connection between the chords. In other words: we can consider each voice a separate melody, although subordinate to that of the upper voice.

We do this by giving the mutual tone of two chords to one and the same voice, or if that is not feasible by allowing each voice to seize that tone of the new chord which lies nearest at hand. Although this will destroy, to a

degree, the support which one harmonic tone gives to another, we shall gain by it a melodic connection which will give an easy flow to all our voices. But it may also lead us to combinations in which the intervals of a chord are so scattered, as to entirely destroy the harmonic support derived from each other. Compare in No. 72, the chords at *a*, with those at *b*, *c*, and *d*, and you will find that with the compactness of the chords, you lose the harmonic mutual support of its intervals, until at *d*, there seems to be no bearing of one interval upon the other.

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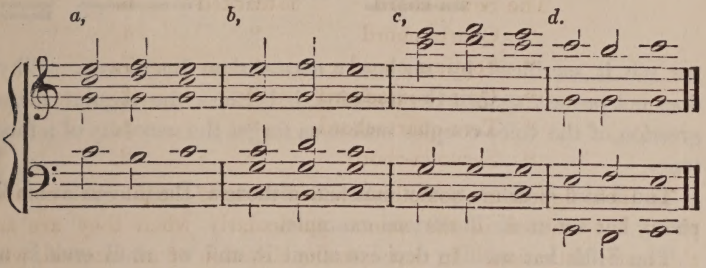
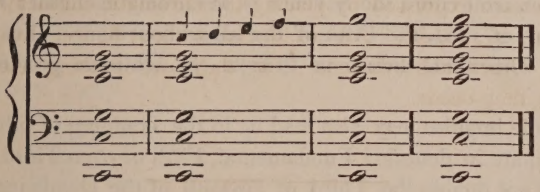


Again we turn to our natural tone-chain,

No. 73.



and learn from it, that nature increases the distance between the intervals of her harmony towards the lower tones, but diminishes it as it approaches the diatonic succession, having it most compact where it supports the latter.

From it we also learn, that the doubling of the harmony takes place in the higher regions where each interval has better opportunity to make itself felt. In no case is the distance between two consecutive intervals larger than an octave. To this we shall adhere strictly except in the Bass, which we shall allow to move at greater distance from the other voices.

In endeavoring to make our voices flowing, we shall frequently be compelled to omit some interval or other, of a chord. The resolution of the Dominant chord has already caused such a sacrifice. But what was then compulsion, may now be free volition,—hence it behooves us to know what intervals are really essential.

We have already introduced this subject in naming our inversions, but we shall supplement what we have then said, by showing how great the

power of the melodic principle is: for by its impulse we shall be able to upset, as it were, the very foundation of harmony. Thus we have learned that the fundamental is the most essential tone of the chord, yet here

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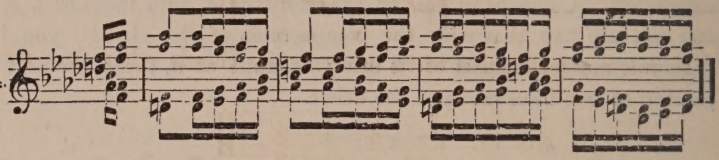

we see it sacrificed by no less a master than Beethoven. Why the ear does not protest against the omission, is because the regular diatonic progression of the voice-couples makes us forget the necessity of a fundamental tone.

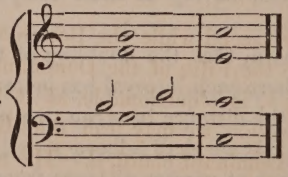
The Third is more rarely omitted, although Beethoven in his 9th Symphony has set us an illustrious example.

The Fifth has nothing decisive about it, and we shall omit it unhesitatingly whenever the flow of voices demand it.

In the Dominant chord the Seventh is absolutely essential; fundamental and Third are of next, the Fifth of the least importance. Yet the flow of voices may sometimes induce us to omit the Third in preference to the Fifth.

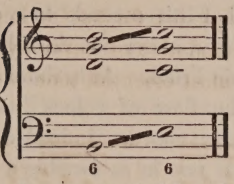
The melodic impulse may also lead us to the doubling of intervals. We need not hesitate in doubling Fundamental, Fifth or even Third of a Triad; but we shall not double the Third or Seventh of the Dominant chord with their prescribed progressions, for we know that consecutive octaves or unnatural progressions would be the result. Even in cases like the following:

No. 75.



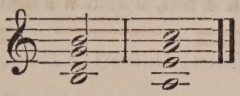
although the Tenor abandons the *b* and goes to *d*, the expectation of the *c*, realized after the *d*, makes itself disagreeably felt, and produces almost the same effect as consecutive octaves. This resolution of the Dominant chord into the Tonic harmony, which makes the Doubling of the Third, so objectionable, is equally prohibitive of the Doubling of the Third in the Dominant Triad, when followed by the Tonic harmony.

No. 76.



It is less objectionable when succeeded by chords other than the Tonic.

No. 77.



CHAPTER XII.

THE DIMINISHED TRIAD.

The first advantage we reap from our inversions is, that in going from the 6th to the 7th degree of the scale, we need no longer double the Third in the Dominant chord.

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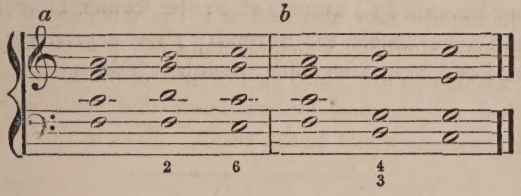
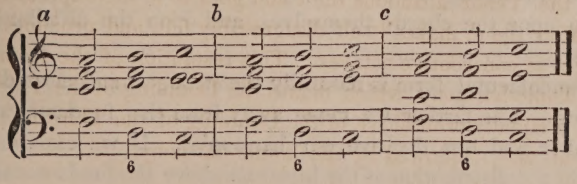


The Alto may now ascend while the Bass remains stationary, (*a*,) or the Bass may descend to the Fifth of the Dominant chord (*b*.) If the quart-step of the Tenor at *b*, is objectionable, as it may well be when flowing voices are the *desideratum*, we may lead the Tenor at once from *c* to the nearest tone of the Dominant chord, *d*.—The result is a Dominant chord without fundamental note, appearing in the shape of a Sexta chord;

No. 79.

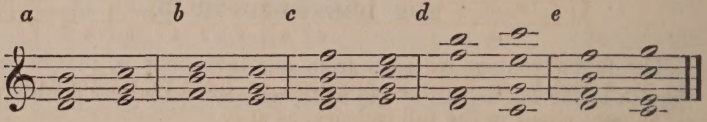


in which, at *a*, the original Fifth ascends to *e*, doubling the Third of the Tonic triad. At *b*, it goes to *e*, also; but the Alto has made room for it by taking the Fifth of the Tonic Triad. At *c*, the Tenor takes the Fifth of the Triad—In all these cases the flow of voices justified the omission of the Fundamental in the Dominant chord. Indeed we scarcely miss it, for the Bass leads us to the Tonic, if not in as forcible a manner, at least in a much more melodious way. But the chief result of the omission is a new Triad with minor Third and minor Fifth, which we shall call a

Diminished Triad.

It is new to us only in treatment, for we have met it before, amongst the triads of the major scale, and rejected it then, because we knew not what to do with it. Now we know that it is nothing but a Dominant chord with omitted Fundamental, and that like its parent chord, it must resolve into the Tonic harmony. The deviations of the chord, also, apply to the diminished Triad.

No. 80.



The former Seventh (*f*) ascends at *a*; the former Third (*b*) descends at *b*; at *c*, *d*, and *e*, we double the Seventh (*f*) — a privilege we take with the *Triad*, and one most acceptable when best hidden.

CHAPTER XIII.

INVERSIONS APPLIED TO HARMONIZATION.

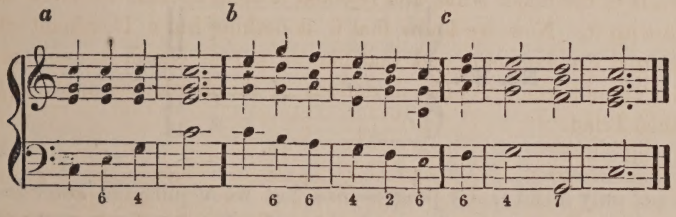
Before proceeding to our work, it will be well to investigate the effect of inversion upon the chords themselves, and upon the distribution of their intervals.

The fundamental form is naturally the strongest and most decided in its expression. The farther we move away from this fundamental structure, the weaker and less decisive our harmonies. If we experience this fact already in the distribution of the intervals above the fundamental tone (No.

72.) this weakness must certainly become more apparent when we withdraw the support of the fundamental tone. For this reason the Sextachord is weaker than the fundamental chord, and the Quarta-chord which rests upon the weakest interval of the Triad, is certainly the weakest, most unmeaning chord of the three. We shall, therefore, be exceedingly careful in our use of it.

The peculiarity of the inversions is their greater mobility, and for this reason they will be useful in giving to the Bass a melodic character which it could not otherwise obtain. Hence in introducing the inversions, particularly the Quarta-chord, we shall have an eye to melodic progression, and we shall not use the Quarta-chord, unless the melodic current leads us to or through it.

No. 81.

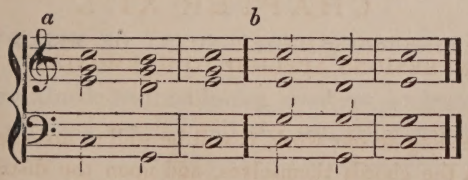


as at *a* and *b*, or when it prepares, or leads to, the fundamental of the Dominant chord in the full cadence, as at *c*.

The Dominant chord is less affected by inversion, because in itself, it needs the support of another chord, and is the essence of mobility, always needing a resolution. But whenever a decided expression is desired, as at the final cadence, the fundamental form is the one to be used.

Inversions not only enable us to give greater flow to our Bass and middle voices, they also give us a wider sphere of action for them. Our middle voices are completely emancipated from the leading-strings of the upper voice. We can now open and close our ranks as we see fit: for some interval of the next chord is sure to be within easy reach. Here

No. 82.



at *a*, we see the chords as we have been in the habit of treating them: the middle voices "hugging" the melody. We say of these chords that they are in

Close Position.

At *b* we have the same chords, but their intervals are distributed over

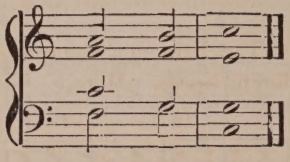
greater space, leaving a gap between the different voices which might have been filled by some interval of the chord. We say of these chords that they are in

Open Position.

Both, name and appearance convey the idea of clearness and transparency, peculiar to the latter position. The voices can move about freely, without crowding upon each other, and consequently can have more individuality.

While speaking of the advantages of open position, we must not forget that it opens another way of overcoming the difficulties of the Dominant chord, as set forth in No. 50; for by leaving out the unimportant Fifth of the Dominant chord,

No. 83.



we not only avoid faulty progressions, but we acquire the Tonic triad in its completeness; for the Tenor doubles the Fundamental of the dominant chord and retains it as Fifth of the resolution.

We know already, how far this opening of ranks can be carried (p. 55), and the student will now do well to practice the harmonization of melodies in open and close position, with and without inversions, and to watch the aesthetic effect produced by them.*

CHAPTER XIV.

INVERSIONS INDEPENDENT OF MELODY.

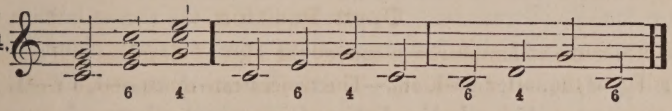
If with the inversions we have gained no new chords, we have at least gained material for new designs. As the different intervals of a chord, in

---

* Supplement III contains melodies for the practice of the inverted chords, in which for re-iterated notes the student will give the preference to inverted chords, rather than introduce related chords. There are also figured Basses, to which the student will set the remaining voices, keeping re-iterated notes as much as possible for the middle voices, but having an eye to the melodic connection of all the voices, and writing at least three different Basses for each melody, and three different melodies for each Bass.

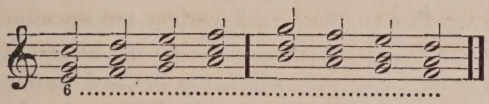
the upper voice furnished us with designs (No. 61) so the different intervals in the Bass will now furnish material for the same purpose.

No. 84.



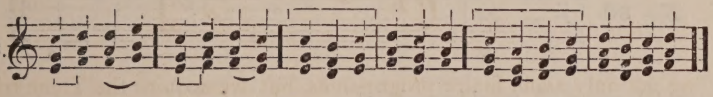
The combination, also, of different sextachords, will

No. 85.



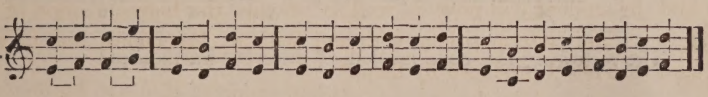
prove a good source. The harmonic connection is here replaced by the melodic flow of the different voices. Here,

No. 86.



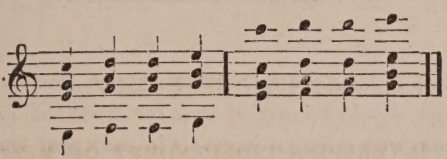
are a few beginnings of Sequences in Sextachords, which may be rendered duophonic by omitting the Fifth:

No. 87.



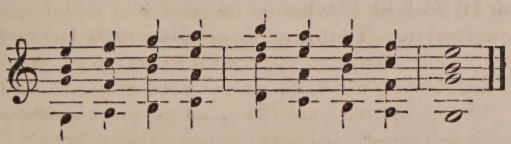
or tetraphonic by doubling the lower or upper voice.

No. 88.



The tetraphony in the latter case is not real, but will answer for rapid and light movements. In slow movements we can have the fourth voice more independent.

No. 89



The combination of fundamental with inverted chords, yields a much richer harvest. All we have to bear in mind in these combinations, is to avoid faulty progressions and not to use the Quartachord, unless we reach it by diatonic progression. To give an idea of the almost infinite variety of combinations we give a few progressions from one single chord:

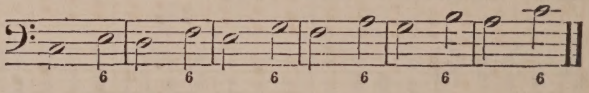
I, I_6,—I, I_4.—I, II.—I, II_6.—I, III.—I, III_6.—I, III_4—I, IV—I, IV_6—I, IV_4—I, V.—I. V_6—I, V_4—I, VI—I, VI_6.—

Add to this a change of interval in the upper voice, close and open position, the reversion of the two chords, and the field will expand immeasurably.

We do not say that all these combinations are equally good, or easy in their management. Related chords will combine best—but each one, in its right place, *i. e.* for a particular effect, can be used to advantage.

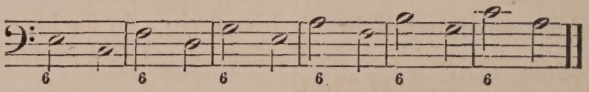
We here give as illustration a sequence of fundamental and Sextachords of the same harmony.

No. 90.



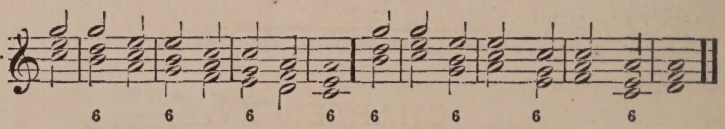
which reversed, would result in

No. 91.



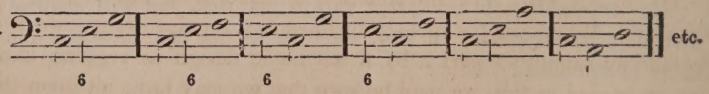
The following is a combination of different harmonies:

No. 92.



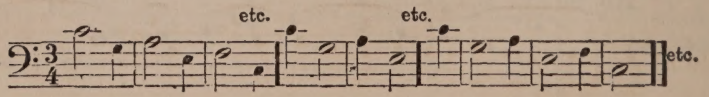
The addition of a third chord yields still more variety: we give here a few designs which should be carried out, for three and four voices, in close and open position, with different intervals in the upper voice.

No. 93.

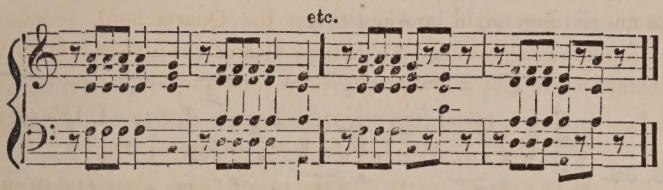


It will also be well to practise in connection with these designs, their rhythmic mobilization. Thus from the simple design I, V,—we might derive

No. 94.

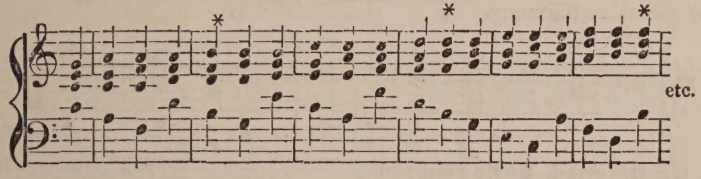


or by reiteration of the chords:

No. 95.

and as we know how to turn a sequence into Phrase or Period the practice of these latter forms should not be forgotten.

It often happens in sequences that the diminished triad is drawn in, without an opportunity for resolving into the Tonic triad, as in the following:

No. 96.



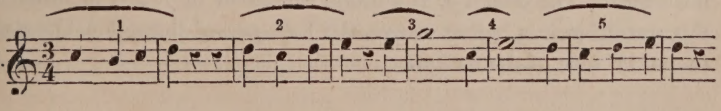
We need not be disturbed by this irregularity; for the impetus of the design carries us along and lends for the time being to the diminished Triad the characteristics of the perfect Triad.

CHAPTER XV.

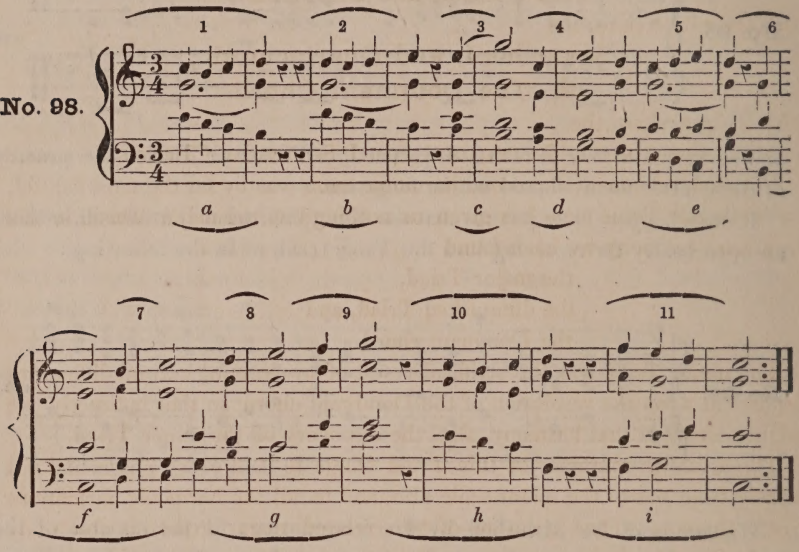
HARMONIC DESIGNS AS ACCOMPANIMENT OF MELODIES.

There is a consistency in the design, the advantage of which we have seen already in No. 68. The introduction of inversions can present no new difficulty. Whenever the melody inclines to a regular design, we must try whether we cannot support it by a harmonic design as regular, and if we have succeeded in this, we may be sure that we may have hit upon the most effective harmonization. Inversions instead of hampering us, will make our task only the easier. Here

No. 97.



is the Thesis of a Period which consists of two designs—one of two measures (1, 2, and 5) and another of one measure (3 and 4) to which the following harmonic designs might be adopted:

No. 98.

We have given the whole period the better to appreciate the oneness and consistency which the harmonic design gives to the whole structure.

In the melody the design 1, is repeated at 2, 5, 10 and 11, to which the Bass answers with the design, *a*, at *b*, *e* and *h*; the Tenor relieves the Bass at *i*, in order to allow the Bass to make the final cadence. The designs 3 and 4 are supported by corresponding designs *c* and *d*, while 6 and 7, 8 and 9 are contracted into one design by the harmonic designs *f* and *g*.

The current of the harmonic design carries us over many obstacles. Thus at 1 and 2, we find Triads without Thirds. At 1, the lacking Third has just appeared in the lower voice, and its effect still lingers upon the ear. In the same way at 2, the *f* of the lower voice still keeps up the impression of the Dominant chord. At 3 and 4 we have doubled the Third, but as it happened upon an unaccented part of the measure, it carries little weight. At 9 the Seventh ascends, but is supported by the parallel motion of the Bass, which makes amends also for the succession of minor and major Fifths. At 11, the flow of voices caused us to omit the fundamental and to double the Third. The design *g*, is a literal repetition of *f*, and in order to make this repetition in a higher octave, the Bass passed through a Quartachord to the initial tone of the design.

With this illustration ends, for the present, the harmonic development of the major scale. What we have gained thus far, consists of

1. The Triads.

MAJOR, MINOR AND DIMINISHED,

with their inversions, the

Sextachord, and Quartachord.

2. The Dominant Chord.

with its inversions, the

Quintsext, Terzquart, and Secunda Chords.

In this development the second harmonic mass was by far the most fruitful, for while our Tonic mass has given us nothing but the major Triad, in the Dominant harmony we have found

the major Triad.
the diminished Triad, and
the Dominant chord.

The minor Triad was the artificial result of overcoming natural difficulties dependent upon the resolution of the Dominant chord, so that indirectly we might ascribe to that harmony, also, the discovery of the minor Triad.

The artificial character of this Triad clings to it in every phase, and not merely to it, but to the minor scale also, and to all the harmonic formations based thereon. Thus a design of two related major Triads is absolutely unobjectionable, in its repetition, while the repetition of Parallel triads is very unsatisfactory. Compare

I, V | I, V. | I with I, VI. | I, VI. | I or I, III. | I, III. | I.

The accoustic relations of the two triads also justify us in calling the minor Triad an artificial production.

In our harmonic tone-chain No. 31. we find that 4, 5, 6, represent the major Triad, which numbers happen to coincide with the vibratory proportions of the intervals 4; 5 being the proportion of the major Third, 5: 6 that of the minor Third, the two together forming the major Triad 4: 5: 6. The minor Triad begins with the minor Third 5 : 6. followed by the major Third 4 : 5 = 5 : 6 x 4 : 5. Thus reversing the order of nature. In fact we do not reach the minor Triad, until we develop from the proportions of the major Triad, those of the minor Triad. Thus:

the octave of $e = 5 \times 2 = 10.$
the octave of $g = 6 \times 2 = 12.$

Now as the major Fifth has the proportion of 4 : 6 = 2 : 3, the major Fifth of e would be = 10 : 15, so that the proportion of the entire minor Triad would be 10 : 12 : 15.

We have gone into the accoustic details, because they will account for our discrimination in favor of the major triad, on many occasions.

PART IV.

THE MINOR SCALE AND ITS HARMONY.

CHAPTER I.

FORMATION OF THE MINOR SCALE.

On p. 45, we discovered that the triads I, IV, and V, contained all the tones of the major scale. Further on we found that these chords furnished us with the harmonic means to form our cadences and half-cadences, and that the Triad I stood between IV and V, equally related to both.—

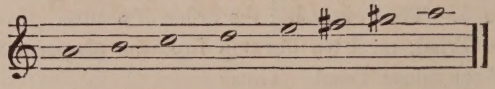
The minor triads of the scale stand in the same relationship to each other i, e, the Triad VI stands between II and III; they also contain the diatonic succession of a scale:

a, c, e,
d, f, a,
e, g, b.

a, b. c, d, e, f, g, a.

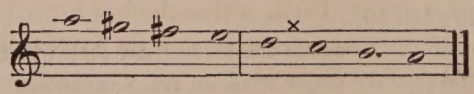
but we miss in it the half-steps from the 7th to the 8th degree, and consequently the means of forming our cadences. Here comes then a conflict between Theory and Practice, or between Harmony and Melody. Melody insists, not merely upon the half-step between the 7th and 8th degree, but also upon a smooth approach to it.

No. 99.



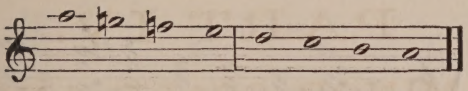
Harmony allows the improvement, but suggests that it would not answer for the descending scale, on account of its hermaphrodite form, which would create the impression of a major scale, until the 6th tone,

No. 100.



(at ×) rudely destroys our illusion. Thereupon melody suggests the softening of this descent by adopting the following:

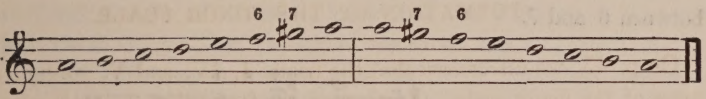
No. 101.



but although this is literally the result of the three minor triads, (p. 66). Harmony insists upon the means for full and half-cadences, and adopts the following as the

Normal Minor Scale.

No. 102.



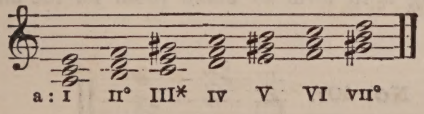
The harshness of the step between 6 and 7 is evident, but we shall bear it: partly, because it gives a distinctive character to the scale; partly because it enables us to construct a regular Dominant chord; partly because it enriches our harmonic formations, and finally, as far as the melodic principle is concerned, we shall find minds to reconcile the antagonistic position of the two elements, whenever the necessity for it arises.

CHAPTER II.

HARMONIZATION OF THE MINOR SCALE. THE NONA-CHORD AND DIMINISHED SEPTIMECHORD.

Forming a Triad upon every tone of the minor scale,

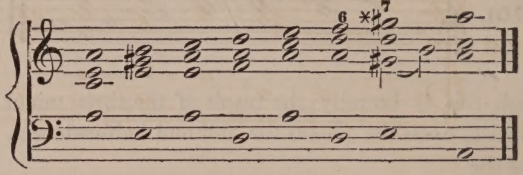
No. 103.



we find a singular mixture of formations. We are acquainted with the major triads V, VI; also with the minor triads I and IV. We have met with the diminished Triad, VII°, and know whence to derive it. But of the diminished Triad II°, we know nothing, nor have we ever met before with a triad, consisting of a major Third, and augmented Fifth, like the one at III*. We shall do as before; *i*, *e*, abstain from the use of these chords, until we know something more about them.

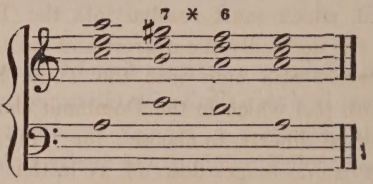
The ascending scale, if we are willing to admit the harsh step (f-$g\sharp$) from the sixth to the seventh degree, presents no difficulty in harmonizing it with I, IV, and V, as we did the major scale.

No. 104.



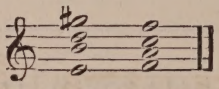
But in the descending scale the Dominant chord will not avail us, between 6 and 7.

No. 105.



We might avoid the faulty progressions by contrary motion,

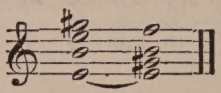
No. 103.



only to sever all connection, and to make still more apparent the harshness of the step from $g\sharp$ to f.

In the major, ascending scale, we gained the Dominant chord by retaining, one tone of the preceding chord. Now, by retaining an entire triad (although changing it in form to make room for the melody,) we gain a new harmony.

No. 107.



with a gap between the third and fourth tone which we fill up with an interval of the dominant harmony (d) and before us we have a new chord of five tones,

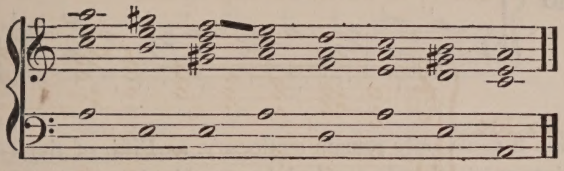
$$e—g\sharp—b—d—f.$$

in which the highest interval (f,) is the ninth, (*nona*) of the fundamental (e.) Hence we call it a

Nonachord.

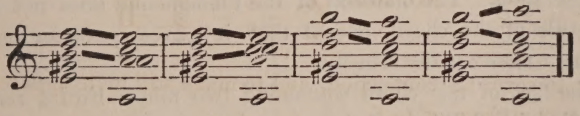
and transfer it at once to the harmony of the descending minor scale.

No. 108.

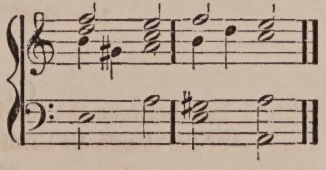


The progression of the Ninth (*f* to *e*,) which was here accidental, is really the legitimate one; for with the tones *b*, *d*, next below, it forms a diminished Triad (*b-d-f*,) of which we know that the Fifth must descend one degree. Or if we consider the whole chord as the outgrowth of the Dominant chord, which must resolve into the Tonic harmony, then the step from *f* to *e* is decidedly the nearest and most natural step to reach it. The other intervals also step into the Tonic harmony by the nearest route. The Fifth (*b*,) which in the Dominant chord had a choice of direction, is no longer at liberty to choose: for lying under the ninth, which must descend, it can no longer descend, as in that case it would make consecutive Fifths with the ninth. When lying above the ninth the Fifth still has its old privilege of ascending or descending.

No. 109

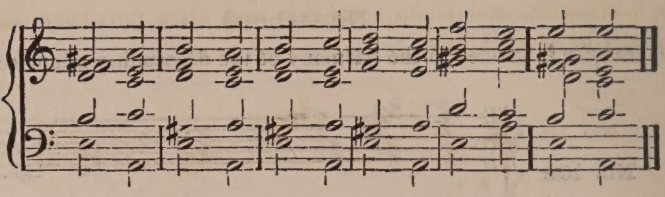


For the accompaniment of melodies we shall use the Nonachord—as formerly the Dominant chord—whenever the progression of the melody allows the proper resolution of its intervals, and if we wish to bring the entire chord within reach of four voices, we shall give the Fifth and Seventh or Third and Fifth to one and the same voice.



While we can use it with impunity for any of its intervals, we shall refrain from using it for the octave of its fundamental note, on account of the confusion it would create. In the

No. 110.



resolution it could only remain stationary, as Fifth of the Tonic Triad, and as this interval is already reached by the Ninth, we would have a useless accumulation of intervals, from which we gain nothing.

We should rather try to relieve the unwieldiness of the Nonachord by omission of some of its intervals. The omission of that convenient interval, the Fifth, does not avail us much, as the real difficulty lies in another quarter. This we shall discover in the inversions.

Much more advantageous is the omission of the fundamental tone, which leaves us a new chord:

The Diminished Septimechord.

containing three minor Thirds, $g\sharp$-b, b-d and d-f, or two minor Fifths, $g\sharp$-d and b-f. As we know whence it came, it is not necessary to speak about its resolution. The omission of the fundamental does not affect the other intervals of the chord, except that it leaves space for one of them (the ninth), to move undisturbedly.

The fact of this chord containing two minor Fifths, reminds us of the two diminished Triads of the minor scale, II° and VII°. Both of them are contained in the diminished Septimechord, and may be considered as derived from it. Or we may look upon one of them, VII° as a Dominant chord with omitted fundamental. In either case the parent-chord suggests their treatment.

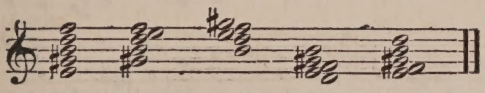
CHAPTER III.

INVERSIONS OF THE NONACHORD AND DIMINISHED SEPTIMECHORD.

If the Nonachord, in its fundamental form, is objectionable, on account of its tone-wealth, the consequences thereof are even aggravated by inversion;

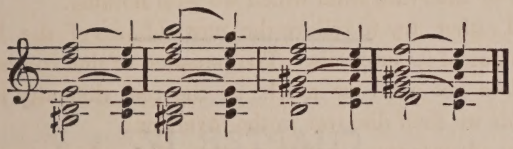
for fundamental and Ninth come into such close proximity that they are actually in each others way.

No. 111.



The only way to use them would be to interpose some other interval between the Fundamental and the Ninth,

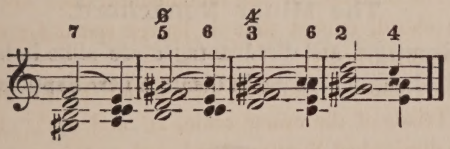
No. 112.



though even then they have to be used with exceeding care.

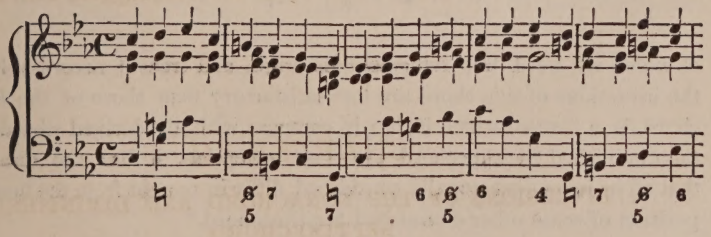
The inversions of the diminished Septimechord are free from these objections, and hence can be used whenever the melody allows their proper resolution into the Tonic harmony. The forms of this chord and its inversions are identical with those of the Dominant chord, in consequence of which they are named and figured in the same manner. Here is the chord with its inversions:

No. 113.

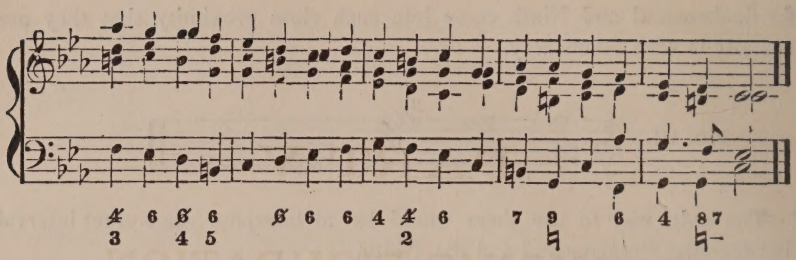


followed by an illustration of its use in harmonizing a melody.*

No. 114.



* Supplement IV contains melodies for the practice of the diminished Septimechord, the Nonachord and other harmonies of the minor scale.



CHAPTER IV.

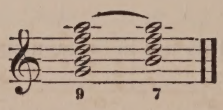
THE NONACHORD IN MAJOR.

The major scale, also, has its Nonachord, situated upon the 5th degree, distinguished only from its prototype by the Ninth, which in major, is major, and in minor, is minor. For this reason we shall call the former

The Major Nonachord,

and the latter

The Minor Nonachord.

Resolution, advantages and disadvantages are alike in both chords. By omission of the fundamental we again obtain a new Septimechord,

of which we need but remember its origin and treat it accordingly. That the inversions of this chord are less satisfactory than those of the Dominant chord, is a feature which it has in common with all derived chords, and if the diminished Septimechord prove an exception, it has the disadvantage that all its inversions, tonally considered, differ in nought from the fundamental position of some other diminished Septimechord.*

* Supplement V, is for the practice of the major Nonachord and the Septimechord derived from it.

PART V.

HARMONIC FIGURATION.

INTRODUCTION.

All our efforts in harmony, thus far, were afflicted with a ponderousness which even our rhythmic figuration (p. 63.) failed to ameliorate, except to a very small degree. This was owing to the simultaneous progression of all the voices.

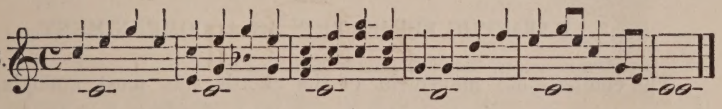
That this is not absolutely necessary we have seen already in our first resolutions of the Dominant chord, when the Tenor took first the Third and then the Fifth of the Dominant chord, while the other voices sustained the Fundamental, Third and Seventh. The same took place in the resolution of the Nonachord (p. 66.) when we had only four voices to represent five intervals of the chord.

The process of giving to one voice two, or more intervals of a chord, is called

Harmonic Figuration.

and can take place, either in one voice, or in two or more simultaneous voices;

No. 115.



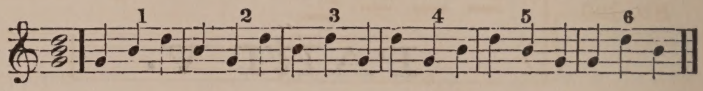
CHAPTER I.

THE DESIGN OF HARMONIC FIGURATION.

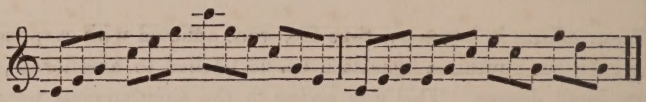
The figuration of a chord gives to it a melodic form, and as such it will do much to relieve our harmony of its ponderousness and open the way to rhythmic animation. To what extent this figuration can be carried, we may

judge from the fact that the Triad alone, independent of Rhythmic variation gives six different designs of tone-succession.

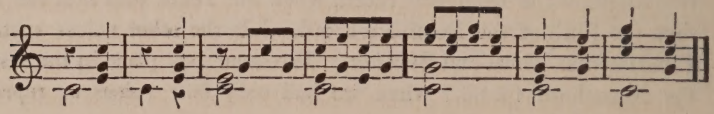
No. 116.



Each chord of four tones gives *twenty-four*, and each chord of five tones, *one hundred and twenty* different designs, to say nothing of open or close, fundamental or inverted position of the chord, or its extension into higher or lower octaves.

No. 117.

Figural designs may also be based upon partial dismemberment of a chord.

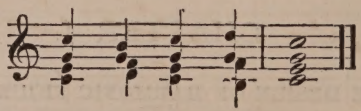
No. 118.



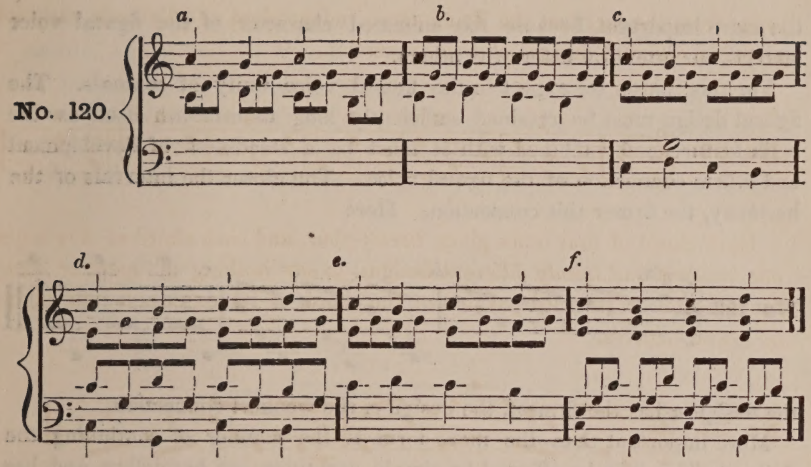
CHAPTER II.

HARMONIC FIGURATION AS ACCOMPANIMENT.

The cumbersome movement of the chords was most annoying in the accompaniment of given melodies, each tone of which had to drag along a load of harmony sufficient almost to crush it. A phrase like this:

No. 119.

moved along with a dignity and importance, perhaps altogether foreign to the idea of the composer. Figuration furnishes the means to lighten the burden without losing the advantages of harmony. Here

No. 120.

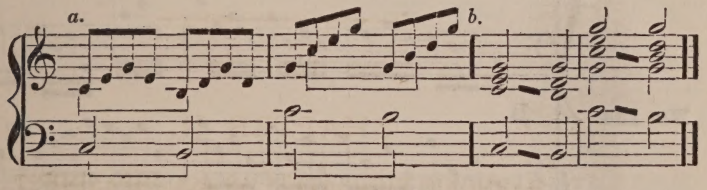


at *a*, and *b*, we have but two voices; yet by figuration we give the full harmony. At *e* and *c* we have three and four voices, one of them figural:

At *d*, we have two figural voices; at *f*, we have five voices—one of them figural, and equal to three, hence giving the effect of seven different voices.

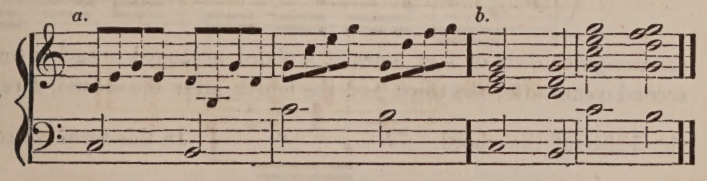
In all our figuration we must remember that it is based upon simultaneousness of the harmony; hence whatever is faulty in one is faulty in the other. Thus it would be wrong to write:

No. 121.



because the figural voice at *a*, when brought back to its harmonic basis, would present the consecutive octaves of the chords at *b*. It would have been correct to write it:

No. 122.

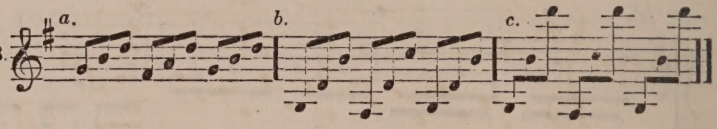


It is not sufficient, however, for figural voices to be merely harmonically correct; the melodic principle also, must be considered. In fact it is here

the more important, because the animated character of the figural voice attracts our attention before the others.

For this reason we expect in the figural voice unity of contents. The figural design must be retained sufficiently long to establish itself as the main feature, and combined with it must be a steadiness of development and a firm connection of the figural voice. The closer the intervals of the harmony, the firmer this connection. Here

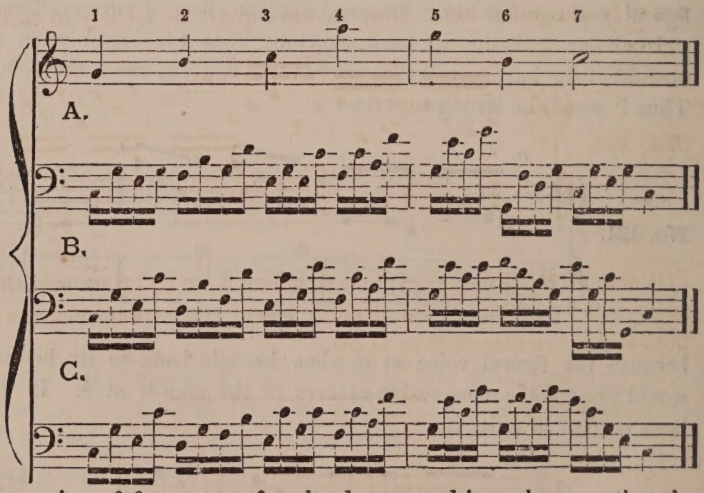
No. 123.

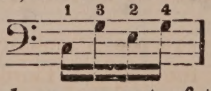


the design *a* has the firmest, the design *c*, the weakest connection.

More important than the mere form, is the manner of continuing the design. This may be effected by simple repetition, as heretofore, and has in that case a mere harmonic connection; or the last tone of one, may be brought in melodic connection with the first tone of the next groups, necessarily causing alteration of the design. Here

No. 124.



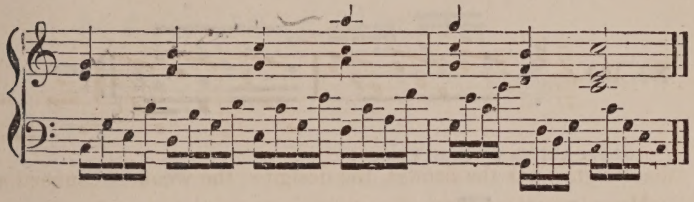
the design consists of four tones of a chord arranged in such a way that the second comes after the third, and the fourth after the second, 4 representing the Fifth of the chord. 

In this form we see it at A, 1 and 2. At B and C, 1, on account of the *g* in the melody, the design is altered, doubling the fundamental, instead of the Fifth. There is only a melodic connection between 1 and 2 A. At B and C, between the

same groups we see the stronger, harmonic connection. Mere melodic connection exists also at B and C, 6 and 7.—The octaves with the melody at B, 1, 2, and 3, strengthen it, and give a more flowing character to the accompaniment.—In both B and C, the design is less strictly carried out than at A, but instead of it we have a more impressive ending.

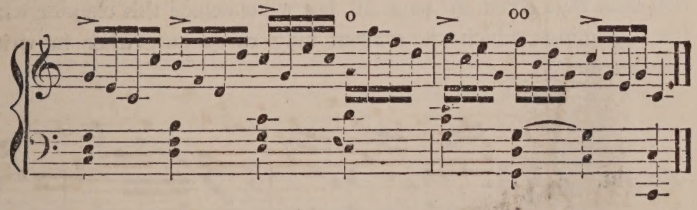
In addition to the figural we can also have a harmonic accompaniment.

No. 125.



The figuration of the middle varies in nothing from that of the Bass, but the figuration of the upper voice causes sometimes more or less deviation from the main melody. By placing its tones (the melody's,) however, upon accented mensural parts, or by similar means, it can be so emphasized, as not to be altogether lost. Here we have given the melody to each

No. 126.



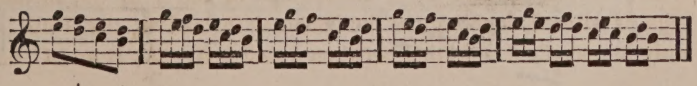
first note of the group, except at o, where if we had continued the process, the result would have been an entire loss of connection and awkward figuration, and for similar reasons at oo.

CHAPTER III.

SEQUENCES AND PRELUDES IN HARMONIC FIGURATION.

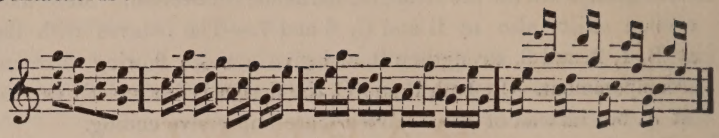
The main feature of the sequence is mobility, to which figuration can only add. Let us begin with the simplest, Thirds and Sixths:

No. 127.



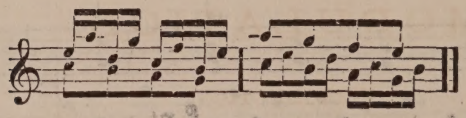
or Sextachords:

No. 128.



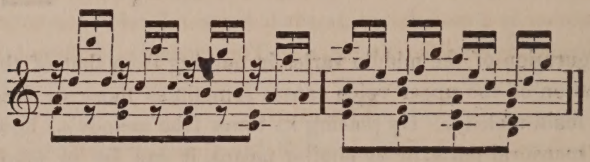
These Sextachords may be rendered for two voices:

No. 129.



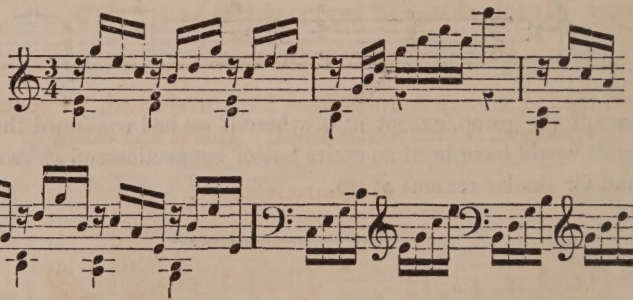
or for three, or four voices:

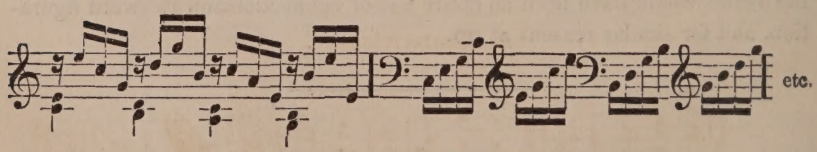
No. 130.

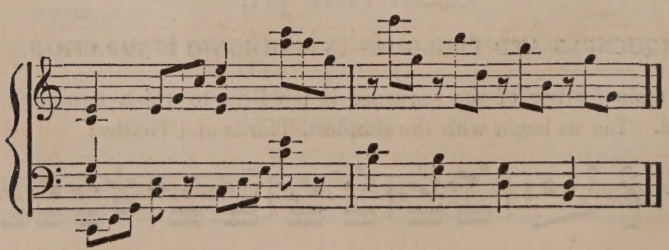


For the construction of preludes in *Lied-form*, it needs no further instruction than that given on page 56, but we conclude this chapter with giving a few beginnings, which the student may carry out, either in writing, or at the instrument.

No. 131.







PART VI.

MODULATION.

INTRODUCTION.

According to the literal meaning of the word, every progression from one chord to another is a modulation, but it has special reference to successions of chords belonging to different Keys.— This change of different keys may be

Transient,

i. e. foreign chords may be introduced for the time being, effacing momentarily the impression of the main key, but ultimately re-establishing it. Such modulation is also termed

Digressive,

by this term, however, more particularly distinguishing it from that of modulation proper, or combination of chords belonging to one and the same scale or key. It (the change of key) may also be

Permanent.

i. e. when the foreign key into which we have modulated, by means hereafter to be spoken of, is firmly established. This is also called

A Transition.

Here

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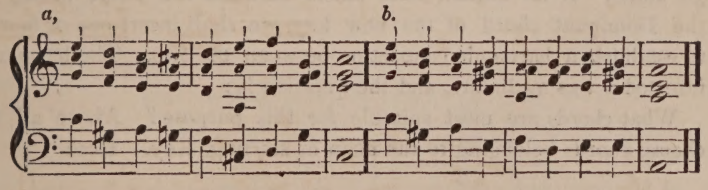
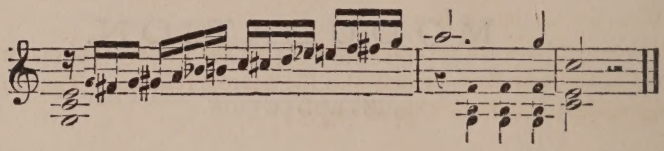


at *a*, we see a digression, touching upon *A* minor and *D* minor, but ultimately returning to and ending in *C*. At *b* we see a transition from *C* major to *A minor*, effected by the second chord, and confirmed by the succeeding ones.

But whether transient or permanent, the method of modulation is the same. We seize a chord belonging to the Key into which we desire to modulate, but not existing in the main Key. Single tones are not sufficient: for we know that one and the same tone may belong to many different scales, and we might introduce the whole chromatic scale, without obliterating the impression of a particular key;

No. 133.



It is not even every chord that is sufficient definitely to indicate the aim of our modulation. Among the few chords fit for this purpose the Dominant chord stands most prominent, although it determines only the Tonic and not the mode of the new Key.

CHAPTER I.

THE DOMINANT CHORD AS MODULATING MEDIUM.

The power of leading us out of one, and into another key, is not monopolized by the fundamental form, but is shared by all the inversions of the Dominant chord. Consequently we shall avail ourselves of whatever form is most covenient to us. The process is simple. We need but avoid faulty progressions and preserve the connection of the harmony, and we cannot go amiss. If no mutual tone exists between the Tonic of the old and the Dominant chord of the new key, we shall insert one or more chords to establish a harmonic connection between the two. The harmonies thus inserted act as mediators, and the question is:

What chords are most suitable for this purpose? Above all we must choose chords belonging to the main or starting Key. Here

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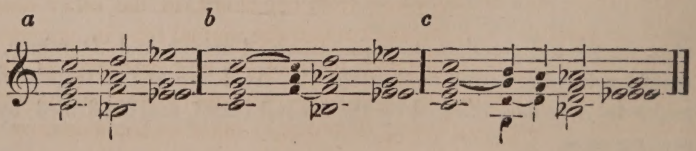

at *a*, we have no connection; at *b*, had we taken *f*, *a*♭, *c*, as mediating chord, our modulation to *E*♭ would no longer have been from *C*, but from some other indefinite Key. At *c*, we have introduced two mediating chords. But we cannot use Nonachords, Diminished Septimechords or Triads as mediators, because they all, impel us more or less back towards the main Tonic, instead of the Dominant chord of a foreign Key. Thus we have only the major and minor Triads as mediators— five for the major, and three for the minor Keys.

In choosing between several mediators we shall select that one which lies nearest to the new Key, or indicates the nearest relation. Thus in the following modulations from *C* to *E* major;

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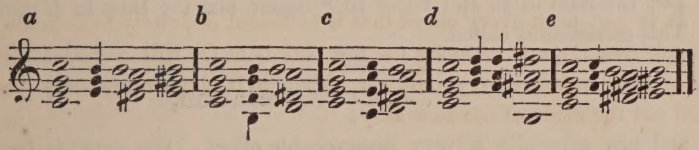


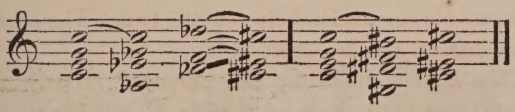
the mediation at *a*, would be most direct, that at *e* the most distant. From this we may judge that with *C* major as the starting point, the chords III, V, VI, would be the best mediators for keys with sharps, while the chords II and IV would be the best for keys with flats.

Sometimes, in modulations to distant keys, it seems imposible to find a mediating chord, as *f. i.* from *C* to *C*♯, no tone of whose Dominant chord exists in *C* major. In such cases we avail ourselves of an

Enharmonic Change.

i. e. we change *C*♯ into *D*♭, and thus find in its Dominant chord (*A*♭, *C*, *E*♭, *G*♭,) a tone (*C*) with which to connect the chord of *C*. Or we make the enharmonic change at once, between the Dominant chord of *C*♯, and the Triad of *C* major.

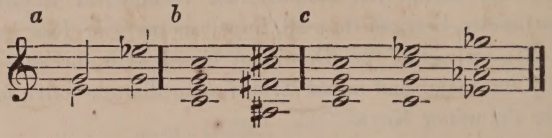
No. 136.



The progression of the voices from one chord to the other must be as simple as possible; *i. e.* we shall retain the mutual tone in the same voice, and let the other voices take such tones of the new harmony as lie nearest to them. These conditions, though not new, gain additional importance in modulation, because neglecting them might cause an inconsistency between

the different voices, almost, if not quite as disagreeable as the consecutive Fifths or Octaves. Thus here,

No. 137.



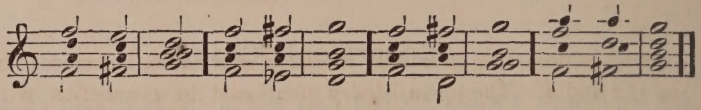
at *a*, the upper voice seems to be in *C* minor, while the lower is in *C* major. At *b*, the Soprano is in *C*, the Alto in *D*, the Tenor and Bass in some indefinite Key. At *C*, the Soprano, *C*, *E*♭, *G*♭, evidently points to *D*♭, the Alto to *C*, the Tenor to *F* minor, and the Bass to *C* minor or *D*♭. This condition is called

A Cross Relation,

and has generally a very disagreeable effect. We avoid it by giving to each voice the tone nearest to it, and consequently cause all chromatic alteration to take place in one and the same voice.

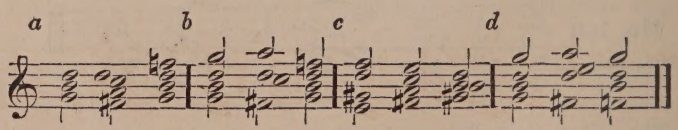
The inadmissibility of cross-relations does not extend to all of them. Thus when the tone to be chromatically altered exists in two voices, the ear is satisfied when one of them takes the chromatic alteration, allowing the other to take some convenient interval.

No. 138.



The cross-relation is also less disagreeable when it takes the form of a newly entering voice,

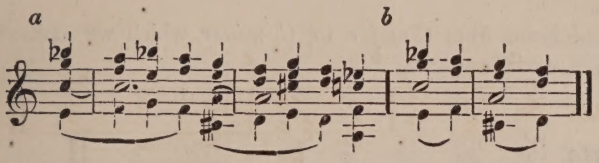
No. 139.



as at *a*, or when the keys are next-related, as at *b*, although at *d*, we see how much more agreeable the modulation without cross-relation falls upon our ear. At *c*, the smooth motion of the voice-couples hides the contradiction of the cross-relation.

The rhythmical formation, also, has its share in ameliorating the disagreeable effect of the cross-relation. Thus

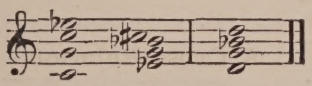
No. 140.



the $C\sharp$ of the Bass at *a*, belongs to a different rhythmical division from the *C* of the Tenor, and the second measure of *b*, is evidently a repetition of the design in the first measure.

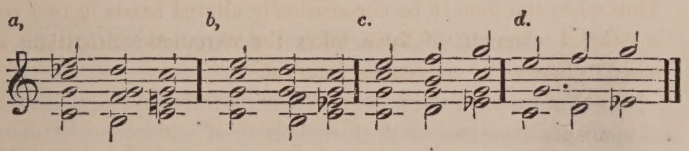
Often the cross-relations are used purposely for sharp and marked modulations.

No. 141.



Thus far we have only spoken of *direct* cross-relations, *i. e.* between chords succeeding each other. But they can also be *indirect*, *i. e.* it can stretch over an intermediate chord, and still make itself disagreeably felt;

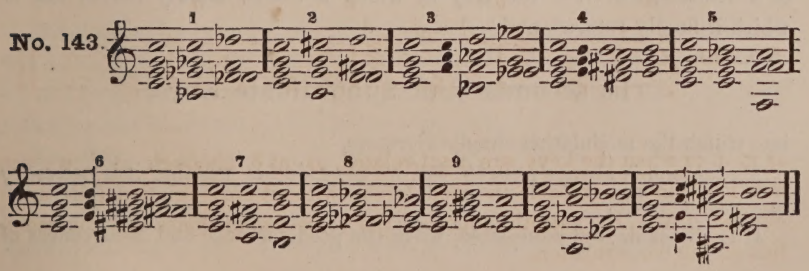
No. 142.



less when occurring in middle voices, as at *a* and *b*, but more in outer voices, as at *c* and *d*. The inconsistency mentioned in connection with No. 137, accounts for this.

We shall now give an illustration of modulation by means of the Dominant chord, from C major to all other Keys, using mediating chords only when absolutely necessary.

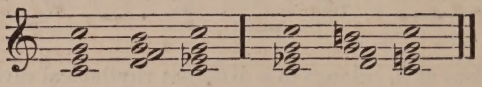
No. 143.



The cross-relation at 2, is legitimate, because the Soprano, the most important voice has the chromatic alteration, leaving the Bass free to go where it pleases.

The modulation from *C major* to *C minor*, which we omitted, or that from C minor to C major:

No. 144.



proves the insufficiency of the Dominant chord for such a purpose; for belonging to both keys in common, it ceases to be a distinguishing mark. For such modulations we need other means, at which we shall arrive hereafter.

CHAPTER II.

MODULATION APPLIED TO GIVEN MELODIES.

Now that we have the means of moving from one key into another, we are suddenly conscious of the insufficiency of our former harmonization.

We could not even harmonize a melody that contained a foreign tone, or branched out into other keys.—Now that we are able to follow the digressions of the melody, we must make a distinction between melodies that necessitate foreign modulation, and those that allow of them. We shall also distinguish between

The Main, or Principal Key,

of a composition, *i. e.* the Key in which it starts, mainly moves and to which it finally returns, and

The secondary, or Subordinate Keys,

into which the modulation simply digresses.

Modulation is always *possible*, but we must decide whether it is *necessary* or even advisable.

It is advisable and admissible, when the predominance and decisiveness of

the main key is not endangered by it, when not too extensive, or too distant. A modulation like this

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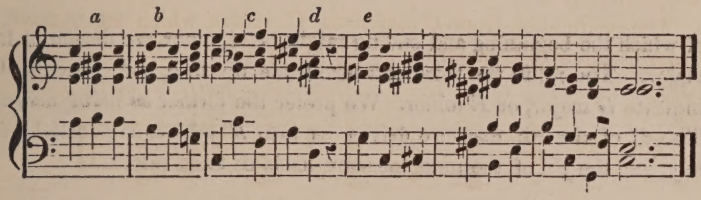

would not alone destroy the impression of a main key, but would do away with all the unity and consistency of the Period. At *a* we modulate into *A* minor; then after barely touching the main key at *b*, we modulate into *F* major at *c*, and close the Thesis at *d*, in *D*.—Again we start from the main key, at *e*, pass through *F*♯ minor, and *E* minor, and finally end in *C*.

We shall not delay here to point out Keys allowed and Keys forbidden. Suffice it that modulation into related Keys is generally preferable, and that the main key, particularly at the close, should be firmly established.

When the melody necessitates the modulation, our task becomes much easier. This necessity may be made evident by outward tokens (foreign tones in the melody,) or by inherent, though less distinct indications (the peculiar progression of the melody).

1. Outward Tokens.

as already stated, are the foreign tones of the melody. Thus if *F*♯, appears in a melody in *C* major, we know at once that we have to leave that key, but we do not know into what key to turn, until the progression of the *F*♯, decides it for us. Now this *F*♯ may belong to four Dominant chords:

1. *f*♯-*a*♯-*c*♯-*e*.
2. *d*-*f*♯-*a*-*c*.
3. *b*-*d*♯-*f*♯-*a*.
4. *g*♯-*b*♯-*d*♯-*f*♯.

But it can only belong to 1, when it remains, or goes to *b*;— it can only belong to 2, when it ascends to *g*; to 3, when it ascends to *g* or descends to *e*; and to 4, when it descends to *e*. In case of its belonging to 3, we shall select the chord nearest related to the main key.

But above all we must decide upon the main key of the melody. The signature is not sufficient, because it is shared by a major and minor key; but the perfect full cadence at the close, in conjunction with the signature, will decide us. For this reason in the following melody;

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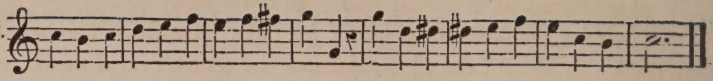
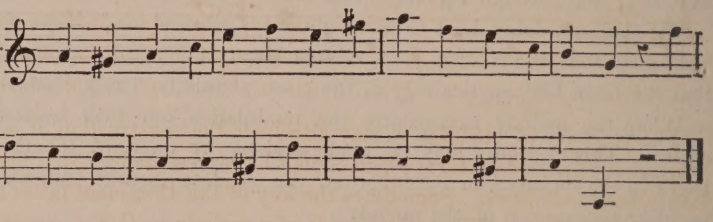


of which the beginning and ending might be *A* minor, we decide in favor of *C* major. The *f*♯ in the third measure leads up to *g*, and consequently might indicate *G* major, or *E* minor. We prefer the former as being nearer related. The *d*♯ of the 5th. measure drives us into *E* minor, as parallel of the last key, and the *f* of the next measure leads us back into *C*.

2. Inner Tokens

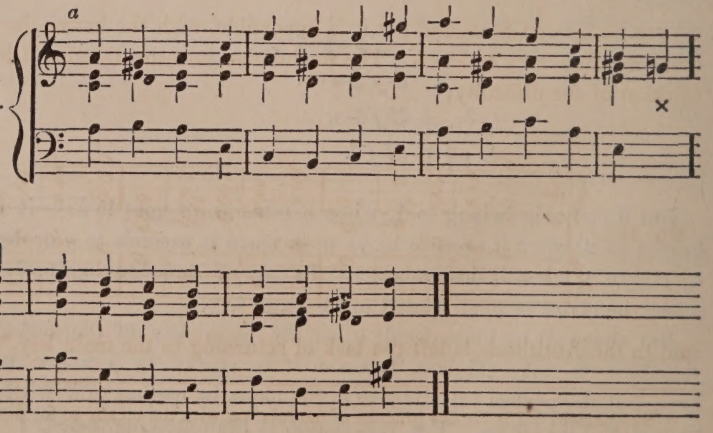
of modulation comprise the turns of a melody, which without digression into foreign keys cannot be properly harmonized. The necessity of this modulation may lie, either in the succeeding tone of the melody,

No. 147.



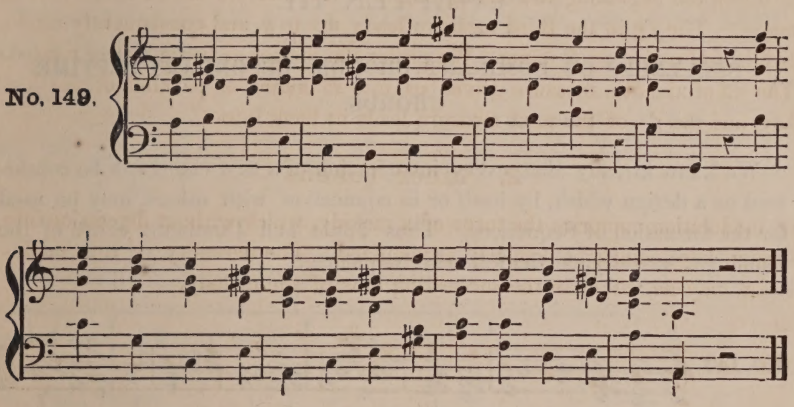
or it may lie in its construction, *i. e.* when its periodical form cannot be given without modulation into foreign keys. There is no mistaking the main key of No. 147. It is *A* minor, and in it we might remain to the beginning of the 4th. measure, were it not for the cross-relation,

No. 148.



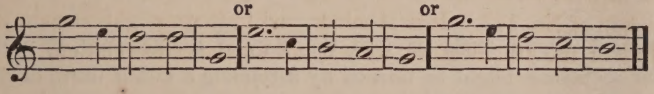
at ×, which brings us to a dead stop. In order to avoid this, we turn into *C*, at a more convenient place, in the previous measure. The second part may remain in *C*, until the $g\sharp$ necessitates the return into *A* minor, either as at *b*, but better thus:

No. 149.



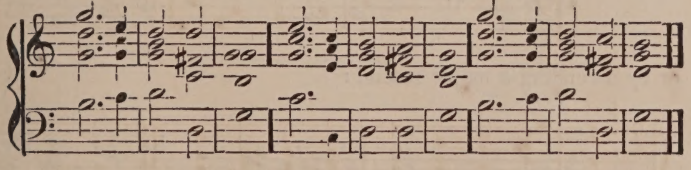
The necessity of modulation may also lie in the construction of a melody, when it is of periodical form which cannot be represented without modulation into subordinate keys. Sometimes the key of the Dominant takes the place of the half cadence. When the Thesis of a melody in *C–f, i*, closes in turns like these:

No. 150.



we see no foreign tone, and yet it is impossible, with the harmonies of *C*, to make a satisfactory cadence. The modulation into the Dominant is the only solution of the difficulty,

No. 151.



and to the Antithesis is left the task of returning to the main key.*

---

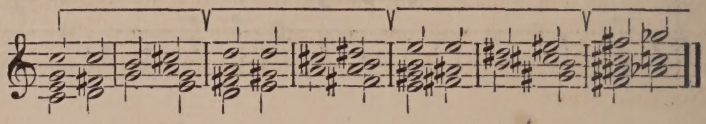
* Supplement VI is for the practise of modulation with the means so far discussed.

CHAPTER III.

SEQUENCES OF DOMINANT CHORDS. SECONDARY SEPTIME-CHORDS.

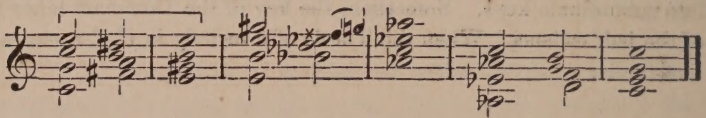
We know already that every introduction of a new chord can be considered as a design which, by itself or in connection with others, may be used for the formation of Sequences. Thus Tonic and Dominant chord of the Dominant would yield the following sequence:

No. 152.



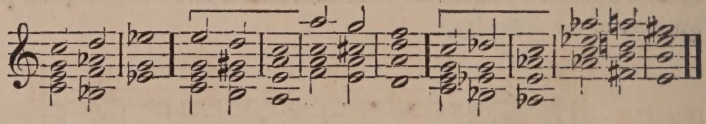
The step to the Subdominant would give a similar sequence. Here the

No. 153.



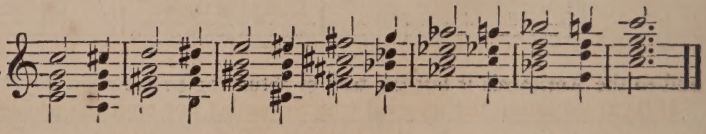
Dominant Chord leads us into the Key of the Mediant, or upper Third. Other sequences might be formed by ascending a minor third, or descending a major or minor Third:

No. 154.

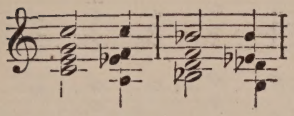


or by ascending a major second:

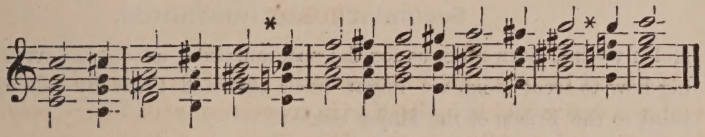
No. 155.



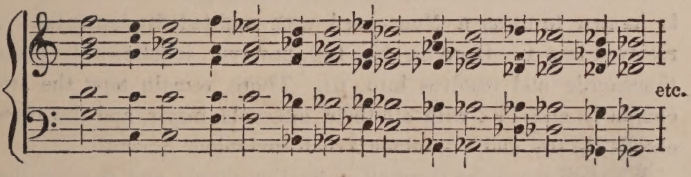
or by descending a major second:

No. 156.  etc.

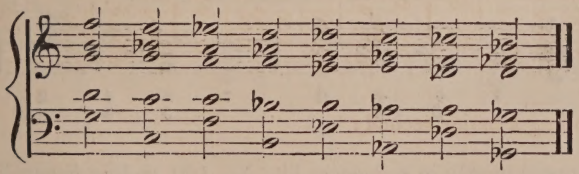
By modifying No. 155, a little, we might make each tone of the major scale a Tonic in turn:

No. 157. 

In the same manner we might ascend or descend through the chromatic scale, or the minor scale. Nor must we forget that all these sequences can be made in different positions, open and close harmony. We shall return however to the sequence of the Subdominant, mentioned in connection with No. 153. Here

No. 158. 

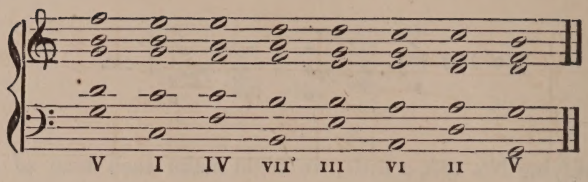
we see a restless progression from every Tonic to its Subdominant; each Dominant chord succeeded by its Tonic Triad. Now, since that Triad is also contained in the succeeding Dominant chord, there is no necessity of interrupting the sequence by a repetition of the resolution, and by omitting this Triad we gain a Sequence of Dominant chords:

No. 159. 

in which as we well know, the Seventh of every chord was the motive power.

If then, we retain the interval (the Seventh,) but omit the accidentals, we arrive at a chain of Septimechords, similar in form and manner of resolution to the Dominant chord, but vastly different in inner proportion.

No. 160.

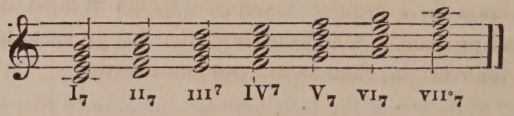


They are called

Secondary Septimechords,

and if we had been anxious for the accumulation of chords, without knowing how to treat them, we might have obtained them by adding another third to the Triads of the Major Scale:

No. 161.

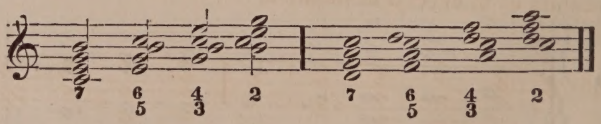


Of the Dominant chord, V_7, we need not speak further. The chord VII°$_7$, is known to us as a Nonachord with omitted fundamental. As such it resolved into I. Here, in No. 160, however, it follows the preceding Septimechords and resolves into III. There remain now the two Septimechords I_7, and IV_7, with all their intervals major, and the three Septimechords II$_7$, III$_7$, and VI$_7$, minor Triads and minor Seventh.

We shall recognize them all as Septimechords, and resolve them accordingly into the Fourth above, but we shall not trouble ourselves with finding names for every formation we meet.

Unlike the Dominant chord, which is pliable in all its inversions and adapts itself easily to various combinations, these Septimechords are stiff and awkward, particularly in their inversions.

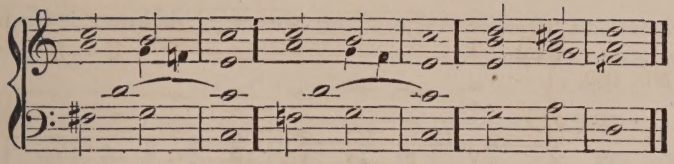
No. 162.



They appear mostly in sequences like No. 160, ending generally with the chord VII°$_7$, which on account of its resemblance to the Nonachord steps into the Dominant harmony.

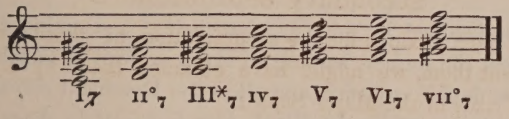
The chords II$_7$, III$_7$, and VI$_7$, generally take the place of some foreign Dominant chord and resolve into the main Dominant chord, to strengthen its final cadence.

No. 163.



To arbitrarily form such Septimechords in the minor scale,

No. 164.



and to insist upon their regular resolution, would in most instances lead to formations and progressions, so unnatural, that we prefer to treat them more according to their origin, than as independent chords.

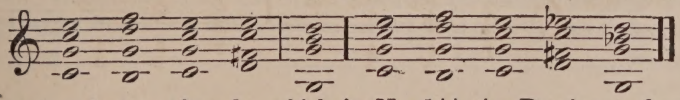
CHAPTER IV.

MODULATING MEDIUMS (Continued.)

THE NONACHORD.

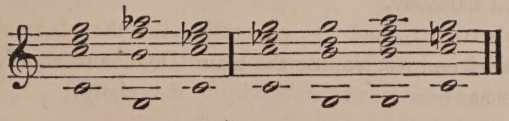
The Dominant chord, although indicating the Tonic, leaves us in doubt as to the mode of the new Key.—*g*, *b*, *d*, *f* may lead to *C*-major, but it may also lead to *C-minor*. The Nonachord indicates both, Tonic and Mode, and hence enables us to effect a modulation,

No. 165.



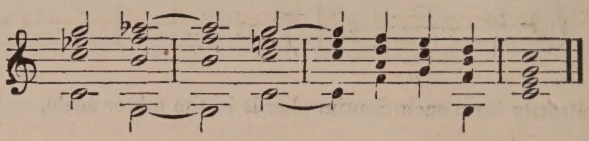
or rather an exchange of mode, which in No. 144, the Dominant chord failed to accomplish. The minor Nonachord leads to minor, the major

No. 166.



Nonachord to major. The minor Nonachord, however, is frequently used to lead us into major.

No. 167.

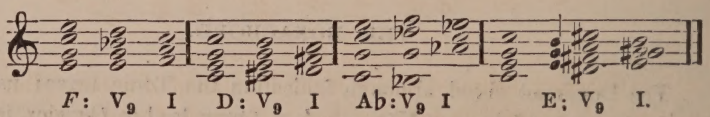


This may be justified in the fact, that being a Dominant chord with added Ninth, and the former leading to major as well as to minor, we avail ourselves of this double capacity, and allow the Dominant chord *legitimately* to resolve into major, while the Ninth, also *legitimately*, descends into the Fifth of the Tonic harmony. Moreover, we have had, and shall have again, cases of intervals with a downward tendency, instead of taking the full prescribed step, stopping on the way, as it were, and resting at some intermediate point, as did the Seventh in the Nonachord of No. 167. We shall have similar cases in ascending intervals, in the chapter on deceptive cadences.

The Septimechord of the Major Nonachord,

or the major Nonachord with omitted Fundamental, is less decisive, because its form appears in more than one Key. Thus *b-d-f-a* may be *a*: II°$_7$, as well as *C*: V$_9$, although in the former it can only appear as secondary Septimechord. Such as it is, however, it is used with or without mediating chords for modulation into foreign Keys.

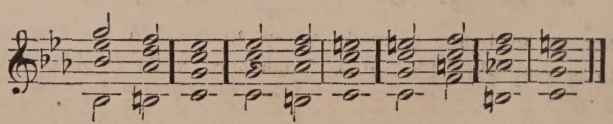
No. 168.



The Diminished Septimechord,

like its predecessor, is the offspring of the Dominant chord, and, like it, can be used for modulatory purposes. Though derived from the minor Nonachord, it can also be used for modulations into and out of major keys. (see above.)

No. 169.

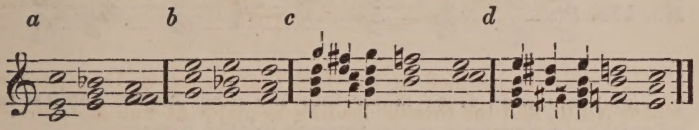


It is more decisive than the Septimechord of the major Nonachord, because its form has none of the ambiguity of that chord.

The Diminished Triad,

shares the ambiguity of the chord just mentioned, and though containing the elements to force us out of a Key, it needs other chords to establish the new Key. The preceding chord also influences the direction in which it may turn.

No. 170.

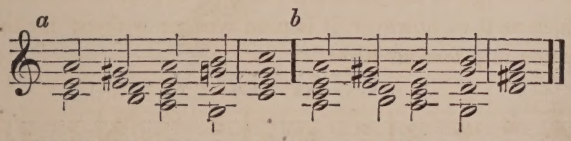


Thus the diminished Triad at *a* and *b*, may lead to *F*-major, or *D*-minor, although at *b*, the succeeding chord decides it for us. At *c*, it leads into *C*-major, because nearest related to *g*. The same chord, however, at *d*, and for analogous reasons, leads us to *A*-minor.

The Dominant Triad,

as we know already, belongs to five different Keys; hence it lacks the decision of the Dominant chord. Here, too, however, the preceding chord assists us in indicating the Key to be expected. Thus the modulation at

No. 171.

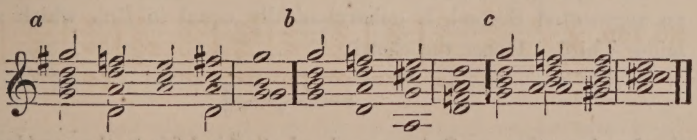


a, is satisfactory, because *C*-major is the Parallel of *A*-minor. But the modulation at *b*, disappoints our expectations, because *D*-major, or *G*-major are not related to *A*-minor. Finally we may use

The Minor Triad,

as modulatory means, provided it contains one or more tones, foreign to the key we desire to leave. But although it enables us to leave the key, it is left to succeeding chords to determine into what Key we have modulated.

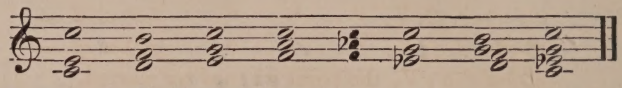
No. 172.



Thus *a*, is a mere digression from and return to G. At *b*, we modulate to *D*-minor, and at *c*, to *A*-major, decided in either case by the Dominant

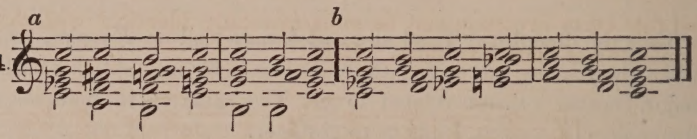
harmony of the new Key. It is used more as a preparatory than real modulating means. In this sense the Subdominant triad in minor serves to introduce and strengthen the exchange of a minor for a major Key on the same Tonic.

No. 173.



The modulation from minor into the same major Tonic is much better effected by a circuitous route, through related Keys.

No. 174.



The modulation at *b* is much more pronounced than that at *a*.

CHAPTER V.

ENHARMONIQUE OF THE DIMINISHED SEPTIMECHORD.

Before proceeding to the application of the modulatory means, thus far discovered, we must return once more to the diminished Septimechord. We know that it consists of minor Thirds, one over the other. Now the peculiarity of this construction is that the inversion of it, although it changes the form does not change the tonal contents of the intervals. Thus $g\sharp$-*b*-*d*-*f*, the diminished Septimechord of *A*-minor, contains the minor Thirds $g\sharp$-*b*, *b*-*d* and *d*-*f*. Its first inversion would be: *b*-*d*-*f*-$g\sharp$. Now, *f*-$g\sharp$, although an augmented Second, is enharmonically equal to *f*-$a\flat$, which again is a minor Third. Hence the chord

b—*d*—*f*—$g\sharp$.

the first inversion, or Quintsextachord of g♯-b-d-f is to the ear identical with

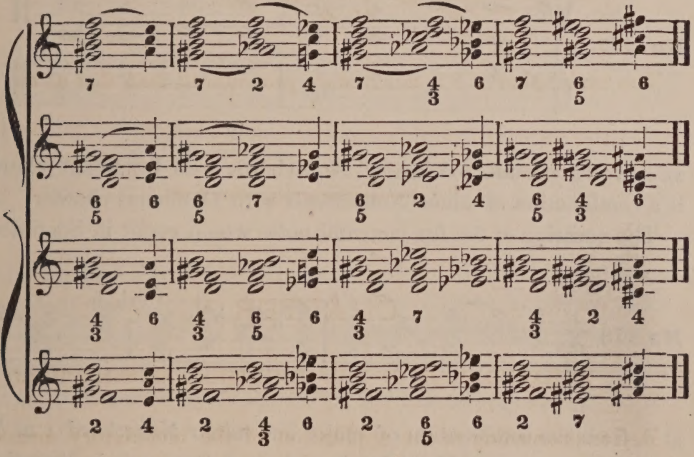
b—*d*—*f*—$a\flat$

the diminished Septimechord of *A*-minor. Continuing this inversion and enharmonic change, we are led from

g♯-b-d-f, *a*; V_9 to its first inversion *b-d-f-g♯*, =
b-d-f-a♭, *c*; V_9 " " " *d-f-a♭-b* =
d-f-a♭-c♭, *e♭*; V_9 " " " *f-a♭-c♭-d* =
e♯-g♯-b-d, *f♯* V_9 " " " *g♯-b-d-e♯* =
g♯-b-d-f, *a*; V_9 the point whence we started.

The same enharmonic change can be made with all the inversions, so that we come to the conclusion that every diminished Septimechord, may be enharmonically considered as an inversion of three other diminished chords, and that every inversion may be enharmonically identical with three other chords, two of them inversions. Here

No. 175.



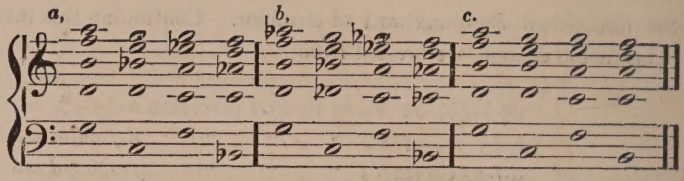
is a table of the diminished Septimechord *g♯-b-d-f*, with its inversions and enharmonic changes.

CHAPTER VI.

SEQUENCES AND HARMONIZATION WITH THE NEW MEANS.

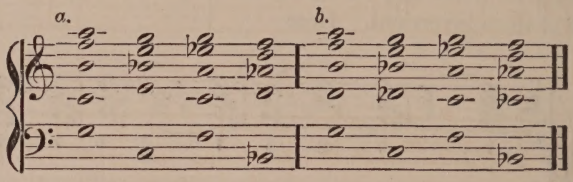
Since the Nonachord originated with the Dominant chord, we resume our sequences by transferring to the Nonachord the process we tried with the Dominant chord in No. 159. Here

No. 176.



at *a*, is the beginning of a Sequence of major Nonachords; at *b*, of minor Nonachords; and at *c*, a sequence of rather doubtful use, in which the Nonachords of different Keys, by omission of the accidentals have been reduced to a single Key. Here

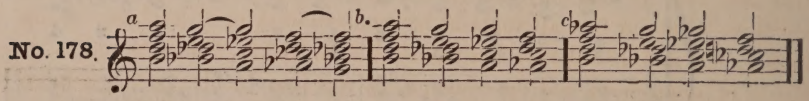
No. 177.



at *a*, we have combined major Nonachords with Dominant chords. At *b*, is a combination of minor Nonachords with Dominant chords.

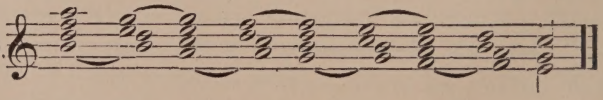
The omitting of the fundamental notes would result in Septimechords:

No. 178.



at *a*, from the combination of major and minor Nonachords; at *b*, from the combination of major Nonachords, and at *c*, from minor Nonachords only. The omission of accidentals would result in

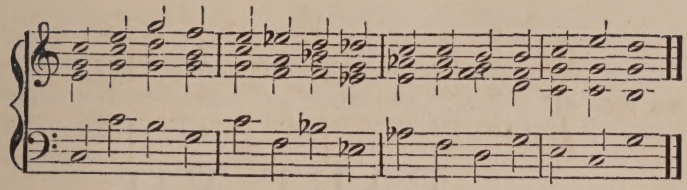
No. 179.



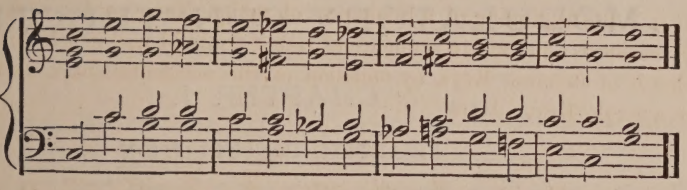
bringing however no new forms.

In applying these chords to Harmonization, we give to the tones of the melody a new significance, for they may now be considered as constituent parts of the Nonachords also. Hence, melodies whose foreign tones formerly forced us into distant Keys, may now be treated in a much more homogeneous manner. Compare No. 180 with Nos. 181 and 182.

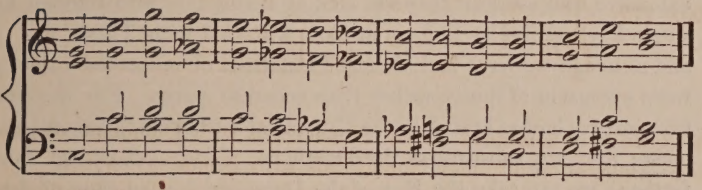
No. 180.



No. 181.



No. 182.



In No. 180, we had only the Dominant chords for the foreign tones, and our Bass, as in our first attempts at harmonization skipped aimlessly about. In Nos. 181 and 182 the foreign tones could be Thirds, Fifths, Sevenths or Ninths of some chord, and the consequence was that besides having a more melodious Bass, we were always within easy reach of the main Key.

PART VII.

MODULATORY CONSTRUCTION.

CHAPTER I.

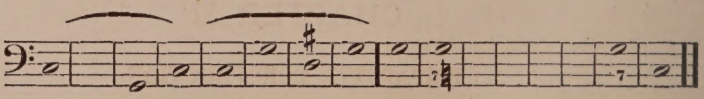
BIPARTITE CONSTRUCTION.

Nothing hampered us so much in the construction of larger or more extensive compositions than the lack of modulation into different keys. Our single key enabled us to form at most a Period with Thesis and Antithesis, and although we have had already formations of more than one part, they were extension of limits, rather than separate parts. For the close of the first part we had at first only the half-cadence from the Tonic to the Dominant mass; then we substituted the Dominant Triad. Now we can go a step farther; we can take the Key of the Dominant for the close of the first part, and with it we gain:

The First Form of Bipartite Construction.

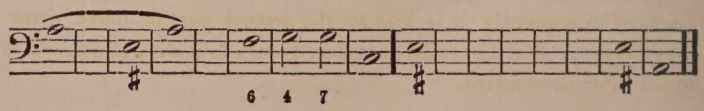
In this form the first part may end with full cadence in the Key of the Dominant, leaving it to the second part to return into the main Key. This is the modulation for major.—In minor the Key of the Dominant, (in *a* minor, *e* minor) would add gloom to gloom. Besides, the Dominant Triad in major is the Tonic Triad of the Dominant Key (*C:* V = *G* I) which is also major; while the Dominant Triad in minor is the Tonic Triad of a major Key (*a*: V = *E*: I). Hence as a rule, the modulation in minor turns to the Parallel. Here is the ground plan of modulation for major:

No. 183.



and here for minor,

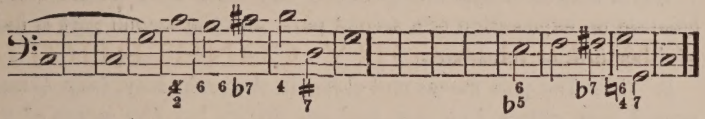
No. 184.



The Second Form of Bipartite Construction.

varies from the first, in that its modulation is carried beyond the objective point (Dominant or Parallel Key for the first part, and the Tonic for the second part), in order to more effectually establish the modulation. Thus in major, the first part

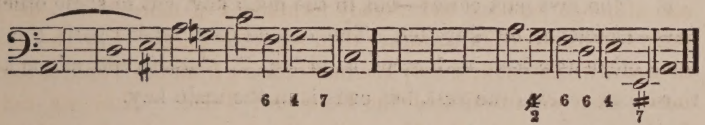
No. 185.



before closing in the Dominant (G) goes beyond it (to D) and then descends to the closing Key (G). For the same reason the second part goes beyond the Tonic (to F) and then by means of the Dominant chord returns to, and ends in the Tonic.

In minor the first part, as before ends in the Parallel,

No. 186.



but its Thesis closes with a half-cadence upon the Dominant. To repeat this in the second part would weaken the entire effect, consequently, we either do away, altogether with the division into Thesis and Antithesis, or avoid, in the Thesis, the main Key altogether.

In these forms the keys of the upper and lower *mediants* (Thirds) often take the place of the Dominant Key. Thus in *C*-major the first part may end in *E*-minor, *E*-major, or *A*♭-major; and in *a*-minor the modulation turns to *F*-major.

CHAPTER II.

TRIPARTITE CONSTRUCTION.

This form, in reality, is only a bipartite form with repetition of the first part. Consequently it is left to the second part to move away from the main Key, so that the third part may return to it with effect.—The following forms offer themselves.

1. The first part moves and closes in the main key; the second part may begin with either the main Key, or a new Key, in which latter it closes. If from the full cadence in this key a direct return to the main key is feasible, the third part (a repetition of the first) may follow at once. This would be easy if *f*, *i*, the first part were in *C*-major, the second in *F*-minor; or if the first were in *A*-minor, and the second in *C*-major.

But it is evident that this form is a very loose one; for the first part ends, creating no expectation of a second part, and the second part is independent of either first or third part.

2. The first part moves and closes in the main Key, (say *C*-major); the second part enters in a new, perhaps distant key (by means of the chords *e*—*g*♯*b*—*d*, *b*—*d*♯—*f*♯, *a*♭—*c*—*e*♭, *f*—*a*♭—*c*, &c,) or turns to the new keys, or moves through more than one key towards some point whence the return to the main key can be made effective. That this point is the Dominant of the main key need hardly be mentioned, although in major the major chord of the upper mediant, or some other chord allowing of an effective return, is sometimes substituted.

3. The first part closes—not in the main key, but in some other, related key—Dominant or Parallel. The second part begins with the latter, or some other new key, and turns as in No. 2, towards the minor key. The third part repeats the first, but ends it in the main key.

CHAPTER III.

CONSTRUCTION FOR MORE EXTENSIVE COMPOSITIONS.

Here, too, in the first part, the main key demands room for development, and if any other key is to be combined with it, it will be that of the Sub-dominant,—for the Dominant will presently be the site of a new part. This step into the Sub-dominant, although an absolute descent, gives on that very account additional effect to the return of the main key (p. 99).

In major, the key of the Dominant, preceded by its Dominant key, becomes now the site of modulation. Its Subdominant (the main key) where we have just been, and to which we have ultimately to return, is here altogether unnecessary, if not damaging. If the modulation is to be extended here, we have to look to the Parallel of the Dominant.

The third site belongs to the Sub-dominant, which prepares the close.

(p. 99). Associated with it may be its Parallel; for its Dominant is the main Key, presently needed, and its Sub-dominant would lead us further off from the main Key. If the two are used, the Parallel should appear first, because the elevation from the Sub-dominant to the main Key is of great importance.

All related keys are now represented, except the Parallel of the main Key, which ought to be associated with the main Key. Either at the beginning or the end. But as it impedes the necessary elevation in both places, we place it where the other Parallels are, and the entire result would be an order of modulation something like the following,

D major *G* major.

C-major, *G*-major ‖ *E*-minor, | *A*-minor | *D*-minor ‖ *F*-major, *C*-major. ‖

The order of modulation in minor is less consistent, and for reasons already stated, major and minor alternate more frequently. The modulation would be something like this,

A-minor, *C*-major ‖ *G*-major, *E*-minor, *F*-major ‖ *D*-minor, *A*-minor. ‖

The succession of *e*-minor and *f*-major, which seems somewhat far-fetched, could be improved by change of position, or insertion of a mediating key, or some other means.

A peculiar freshness and decision lies in both these orders of modulation, because, with the exception of the main key, no key appears twice.—But with all this systematic arrangement of keys, this order of modulation is not the absolute rule. Other combinations may be formed, but the principle of not more than once making a key the seat of modulation, cannot be violated without detriment to the whole structure. If, *f*, *i*, in major, we were to lead the modulation to the Parallel, instead of the Dominant, that Parallel ought not appear in the middle part, but yield its place to the Dominant thus:

C-major, *A*-minor ‖ *D*-major, *G*-major, *E*-minor‖ *F*-major, *C*-major. ‖

Sequences leading through the harmonies of various keys are not tied to any such order, because it is not their object to retain any particular key. These orders of modulation, are as it were, sequences of greater extent, and thus lead us to a new form of motion:

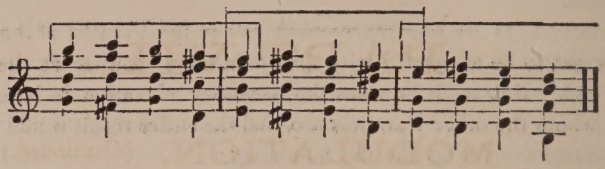
Phrase-chains, or Phrase-sequences.

We have had some formations of this character in No. 155 and 157, but they do not consist of a connected series of single chords, (like No. 160), but of two and two harmonies belonging together (the Dominant chord and

its resolution. In like manner every Phrase, by repetition upon different degrees, can become a PHRASE-CHAIN.

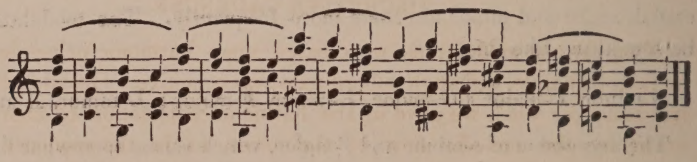
Thus we see here

No. 187.



an illustration, consisting of five chords, the fifth one being the end of one, and at the same time the beginning of another Phrase, in which the repetition is always a Third lower. In the following:

No. 188.



the phrase is more complete in itself, but less regular in the repetition.

The whole phrase in these sequences, constitutes the design, and is not limited in extent, except that it should not expand into such dimensions as to prohibit its comprehension as a design.

PART VIII.

MODULATION. (Continued.)

CHAPTER I.

MODULATION INFLUENCED BY THE MELODIC PRINCIPLE; DECEPTIVE CADENCES.

Thus far our modulations were based upon harmonic principles; yet the melodic principle, although subordinate was co-active. Occasionally we have had instances when we gave up the harmonic connection of chords, remunerated by the melodic flow of the voices, as in the sequence of Sexta-chords, (No. 85.) the deviations of the Dominant chords, &c.

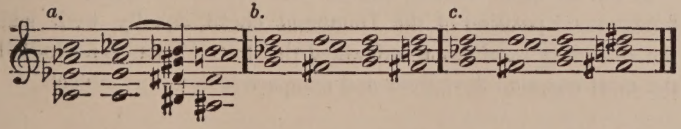
In those cases the predominance of the melodic principle was accidental.

We shall now introduce it designedly,—without violating the dictates of harmony, however, to such a degree, as to supplant them altogether. Nor shall we deviate from them without a *quid pro quo* in the shape of melodic satisfaction. We shall begin with

1. The Major and Minor Triads.

These chords combine most readily with the nearest related triads. Yet in our first harmonization of the descending scale we combined non-related chords on the strength of their melodic connection. This connection has now a much wider field, since we are no longer confined to the Triads of any single key. Thus we pass here.

No. 189.

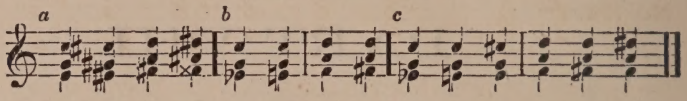


at *a*, from *A*♭ to *E*-major. Although the enharmonique of the chords is the apparent justification of the modulation, yet its true legitimacy consists in

the melodic flow of the voices. At *b*, we have but the connecting tone *d*; at *c*, we sacrifice even that, and yet the melodic connection of tones, chromatic or diatonic, enables us to go to such distant keys as *B* minor, or *B* major.

This same melodic connection allows us to form sequences of Sextachords,

No. 190.

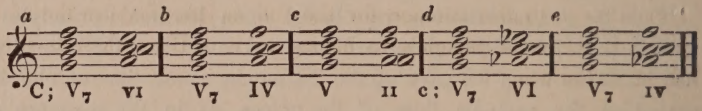


chromatic in all the voices (*a*,) or in one voice, (*b*,) or in two voices (*c*.)

2. The Dominant Chord.

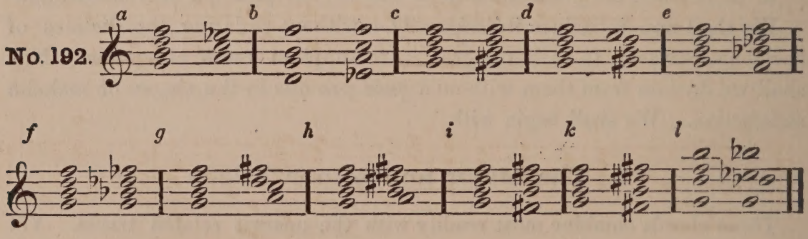
This chord was characterized by its most rigorous adherence to its resolution into the Tonic harmony. From this we shall now deviate, within the key;

No. 191.



and without regard to key:

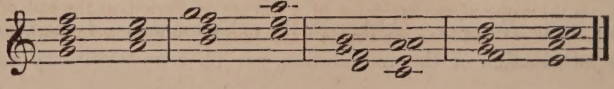
No. 192.



In all these cases the deviation from harmonic principle is counterbalanced by melodic progression. Now, if all these resolutions are admissible, how can our first resolution, No. 49, be the fundamental law?

If for no other reason, because that resolution applies to inversions and fundamental position of the Dominant chord, equally well, while none of the deviating resolutions will stand this test. Take *f. i.* No. 191, *a*, one of the most common deviations and compare it in its inversions

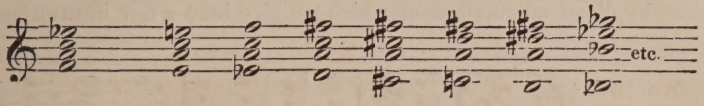
No. 193.



with the regular resolutions of the inversions of the Dominant chord, or try to make a final cadence in *a* minor with it, and the reasons will be apparent.

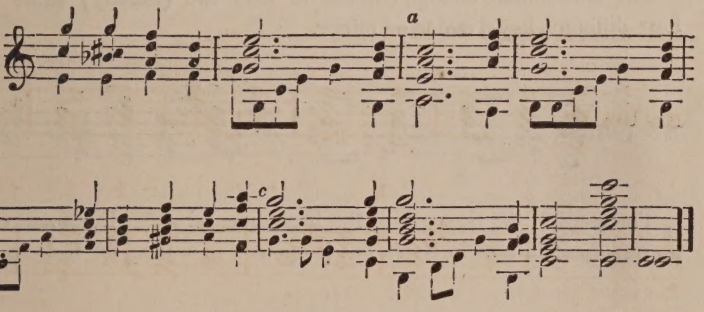
These new resolutions can also be used in Sequences

No. 194.



which without pursuing a regular harmonic design, are held together by the melodic progression of the voices. Before closing this subject we must mention one particular application of the resolutions in No. 188 and 189.— Frequently it is of consequence, at the end of a composition, to impress the main key upon the ear, sufficiently so as to overbalance the effect of other keys that may have been introduced in the course of modulation, or to repeat the last phrase, or last part of a phrase, or to attach to it a Coda.* If this were done after the full cadence it would cause a disappointment to the listener, for the full cadence implies the end of a part, and yet the coda pretends to belong to it. Here then is the place for these deviations.

No. 195.



The close is expected at *a*, in *C*-major, instead of which we turn to *A*-minor. A similar deception is practised at *b*, until finally at *c*, we come to the actual close.

Such deviations are called

Deceptive Cadences.

3. The Septime Chord of the Major Nonachord.

also takes part in the deviations of the Dominant chord; in the key:

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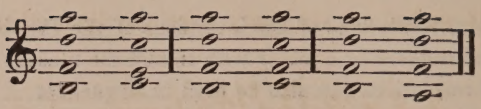
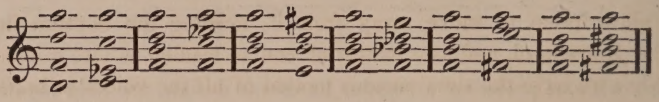
* CODA is the name of the extension of a Phrase or Period, at the end of a composition. It is distinguished from the simple extension by having a somewhat independent formation of its own.

No. 196.



or by direct modulation, of which we give here a few illustrations.

No. 197.

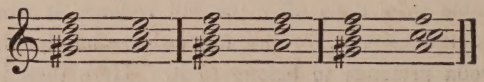


&c.

4. The Diminished Septimechord.

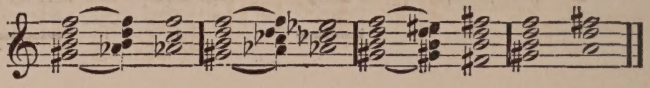
owing to its capacity for enharmonic change, is the most fruitful in modulations. Within the key it shares the deviations of the Dominant chord:

No. 198.



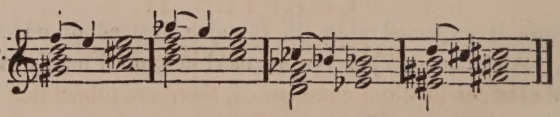
But enharmonic change enables to lead the (tonally) same chord into four different keys, major or minor.

No. 199.



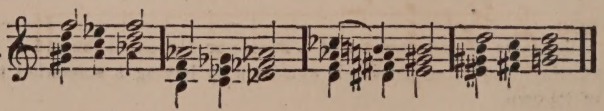
The steps of the Seventh to the Fundamental of the Dominant chord yields no new modulations in itself, but it opens a new field, for if here

No. 200.



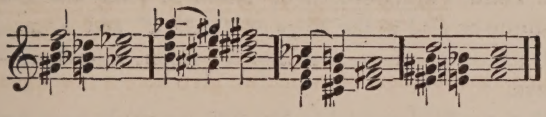
we have retained three voices, we can also retain one voice and allow the other three to come up to it.

No. 201.



In page 106 we had one stationary voice, the three others approaching it. Here

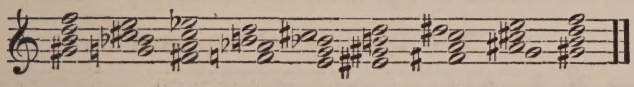
No. 202.



we allow them to move away from it, forming the Septimechord of the major Nonachord, and as a matter of course leading us into a major key.

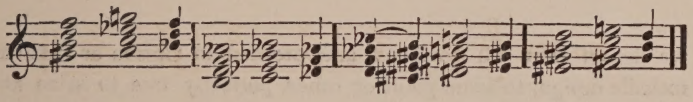
Next we have the simultaneous motion of all the voices in half-steps.

No. 203.



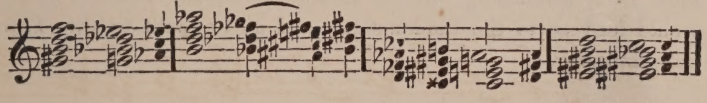
or three of the voices progressing in half-steps, the fourth in whole steps:

No. 204.



or the same in descending motion which would lead to the same keys as No. 201, although in a different way.

No. 205.



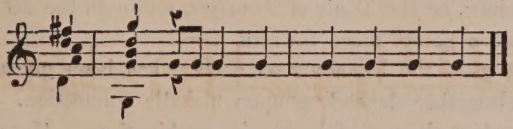
CHAPTER II.

SALTATORY MODULATION.

Besides the modulations enumerated, there are others that skip at once to a new key, seemingly without melodic or harmonic connection; yet on investigation they will prove to have either the one or the other kind of connection.

Suppose, some part of a large composition had closed thus:

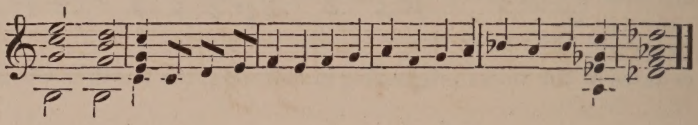
No. 206.



now this *g* whether sustained, or rhythmically re-iterated may be the Fundamental, Third, Fifth, Seventh or Ninth of some chord, and accordingly would indicate or lead to the Keys of *C*, *A*♭ *F* and *D*-major, *D*-minor, *B*-major, *B*♭ minor, *G*-minor, *E*-minor, *E*♭-major, *A*♭-minor,— in all 14 different Keys.

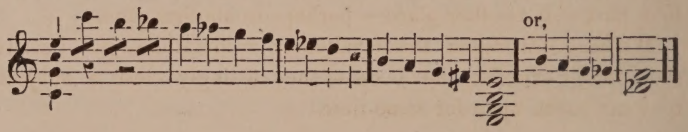
Instead of the fundamental in No. 206, we might have retained the Third or Fifth, which each in turn would give us the same number of modulations. If in this case the retained tone (*g*) formed a connecting link between the different keys, it was after all the closing cadence which finished the first part, that enabled us to go to the more distant keys. Here

No. 207.



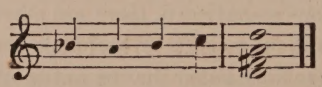
we depart from all harmony and proceed in Unison or Octaves, in some melodic design, to some point or other, perfectly free to seize any key we meet on our way, only taking care that the last note before the new key be an ascending interval of the Dominant chord thereof. A chromatic passage would answer equally well. In a descending passage the last note must be a descending interval of the Dominant chord which as Fifth would lead us to the fundamental, and as Seventh to the Third of the new harmony.

No. 208.



Nor is it necessary to conceive the last tone of the passage as an harmonic interval of any kind: Here we lead

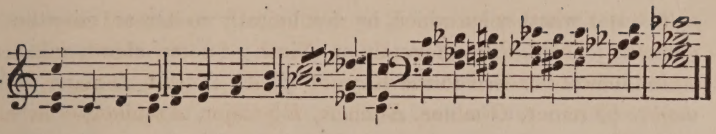
No. 209.



the 5th measure of No. 207, into *D*, which may be the Dominant of *G*-major, or *g*-minor, or the Tonic of *D*-major, although the *B*♭ and *C* of the previous measure points more towards *G*.

In all these cases the harmonic connection has been given up entirely, and we are altogether depending upon melodic connection. But we need not deny ourselves the use of harmonic combinations. Here

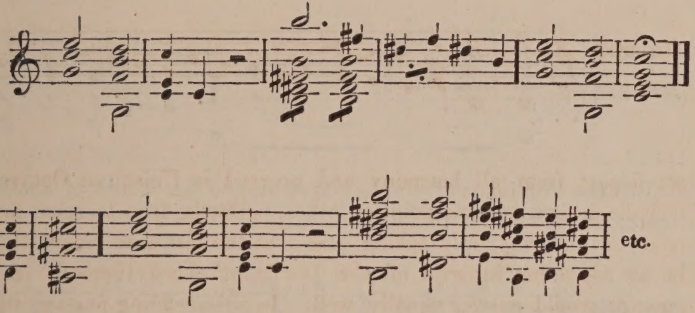
No. 210.



are harmonic passages for two and three voices, by means of which we could have arrived at any key desired.

We can also lead into a Septime, or Nonachord instead of a Triad. And finally the new key may present itself at once without mediation of any kind:

No. 211.



All these modulations may be defended on the ground that the first part was complete in itself, and the second part, although a continuation of the former, is a new formation which takes up the thread of the idea of the first part— in another place— perhaps in another sense.

We have introduced these saltatory modulations, not because we need them in our exercises, but because they fittingly close a subject which we may not touch upon for some time.

CHAPTER III.

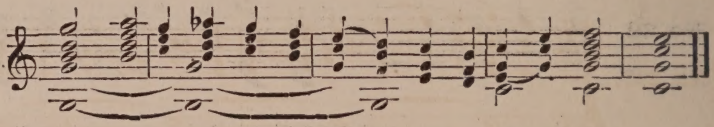
THE ORGAN-POINT. (Pedal Point.)

By this name we designate a combination of chords, well connected amongst themselves, diverging into different keys, or remaining in the same key,— built upon a stationary voice, which at the beginning and the end constitutes a part of the harmony, but in the interim is apparently entirely independent of the harmonic combinations of the other voices.

The stationary voice which, by the by,may sustain or reiterate the tone, gives to the whole combination a quieting effect, often needed after the commotion of extensive modulation. Hence the Organ-point is frequently used to prepare for the final cadence.

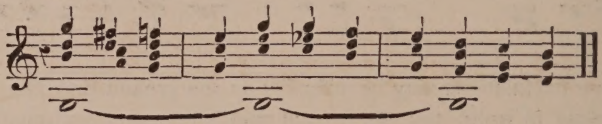
As basis, the Organ-point takes either the Dominant, or the Tonic, or the two combined. Why these intervals should be chosen for the purpose, in preference to any other, is easily understood when we remember that the Dominant itself is the basis of the Dominant triad, Dominant chord, major and minor Nonachord, and that in the Quartachord, it is a constituent part of the Tonic harmony, and that it is the direct issue of the Tonic, so that with the harmonies derived from it, it may well rest upon the Tonic.

No. 212.



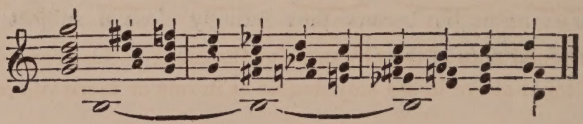
But the Dominant of one key may also be the Tonic of another, so that combinations like the following;

No. 213.

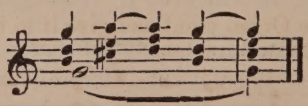


in which the *g* is at one time Tonic, at another time Dominant, is no longer unreasonable to us. Here.

No. 214.

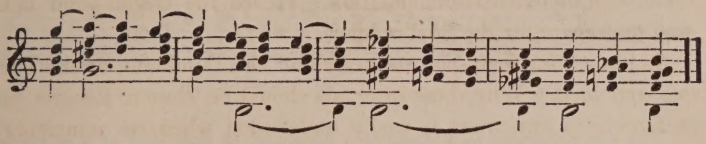


although the harmonies have a more foreign appearance, the *g* is still maintained as Tonic or Dominant, and consequently serves as legitimate bass for the chords above it. But gradually our harmonies take a higher flight: they venture into the Dominant of the Dominant:

No. 215.

and thus the Dominant becomes a whirlpool which sucks in chord after chord, drawing them all to one centre—the point at which the stationary voice

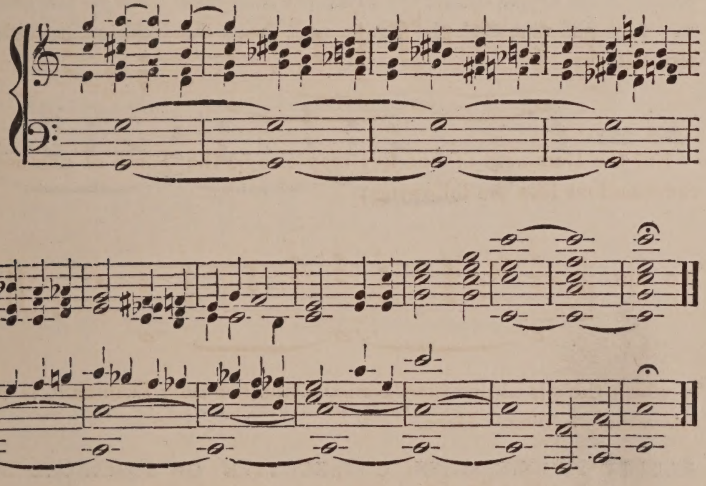
becomes again an integral part of the harmony, and following its natural course, leads back into the Tonic harmony of the main key.

No. 216.



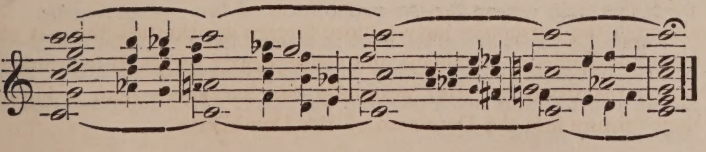
In the preceding illustration the Dominant became the Tonic; but as the Tonic may also become the Dominant, we can develope the Organ-point upon the Tonic itself, and in the union of the two find the most complete and majestic ending.

No. 217.



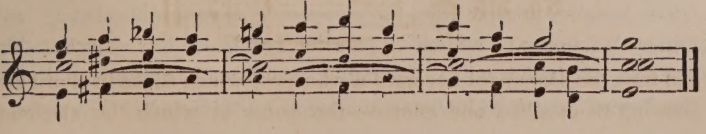
If the sustained note of the Organ point threatens to be overpowered by the mass of tones above it, we may double it in one or more voices.

No. 218.



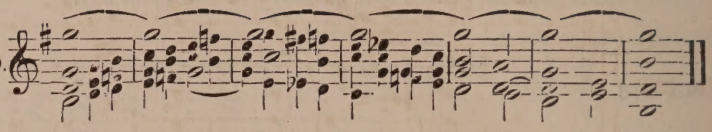
We can also invert the Organ point and give it to middle voice.

No. 219.

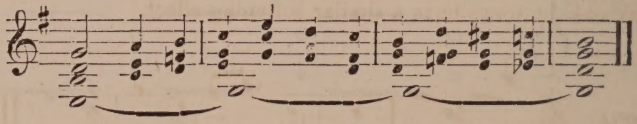


or to the upper voice.

No. 220.



The Organ-point is not strictly confined to the end of a composition. It can be used at any point thereof, and in that case need not be confined to Tonic or Dominant. That no plagal cadence can be formed upon the Organ-point of the Dominant, is self-evident: for the Sub-dominant chord does not contain the Dominant, and as we have stated already: in the last chord of the Organ-Point the sustained tone must form an integral part of it. It is different with the Tonic, as it forms the Fifth of the Subdominant chord.

No. 221.

CHAPTER IV.

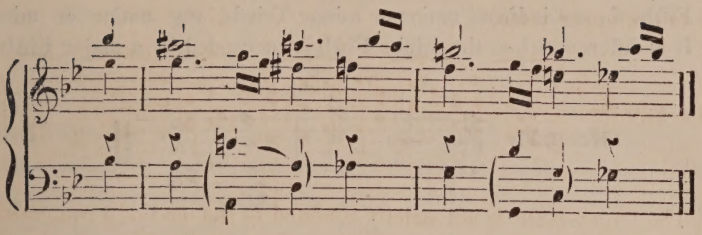
FAULTY PROGRESSIONS, CONSECUTIVE OR PARALLEL OCTAVES AND FIFTHS.

We return once more to this subject, although on page 37 we have set forth the main reason for the prohibition of these progressions.

Parallel octaves are often used to strengthen a voice, in a higher or lower octave, and as in that case they have no pretensions to independency, they do not come within reach of the prohibition. It is different with the Fifths, particularly major Fifths.

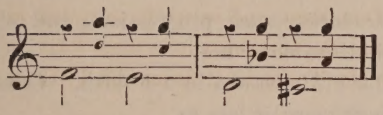
They represent, as it were, incomplete Triads, and consequently create the impression of two or more Triads in fundamental form. When these triads have no mutual tone, the succession becomes absolutely unbearable. Others belonging to related or parallel Triads are less objectionable. They are also admissible when belonging to different rhythmical divisions. Of the former we see an instance in Haydn's Overture to "The Seasons."

No. 222.



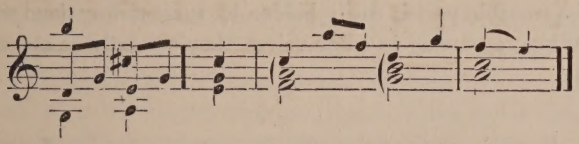
Rests also tend to soften the disagreeable effect;

No. 223.



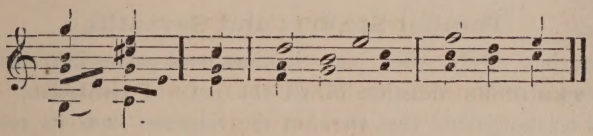
Harmonic by-tones have a similar softening effect,

No. 224.



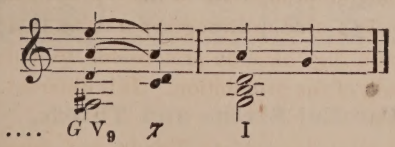
particularly when the Fifths fall upon unaccented mensural parts.

No. 225.



They are still less objectionable when belonging to the same harmony.

No. 226.

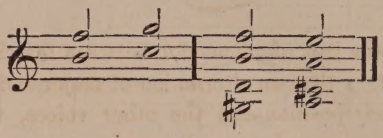


When caused by the doubling of other voices, as occurs frequently in Orchestral or Piano compositions, they are, like the parallel octaves in like cases, unobjectionable.

The succession of minor Fifths, or major Fifths succeeded by minor Fifths cannot possibly come within the reach of prohibition, for the minor

Fifths do not indicate major or minor Triads, nor major or minor Keys. It is different when the minor Fifth is succeeded by a major Fifth:

No. 227.



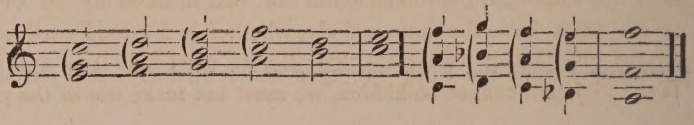
for here the minor Fifth brings to our mind the Dominant chord with all the other chords derived from it. The same reasons that justify the deviations of the Third and Seventh in the resolutions of the Dominant harmonies will hold good in introducing such progressions, and enable us to judge whether they are objectionable or not.

The inversion of the Fifth results in a Fourth. Consequently the effect of Parallel Fifths clings more or less to

Parallel Fourths;

but the disagreeable part is easily hidden by surrounding them with parallel sixths. When occurring in outer voices, they are fully as objectionable as the Fifths.

No. 228.

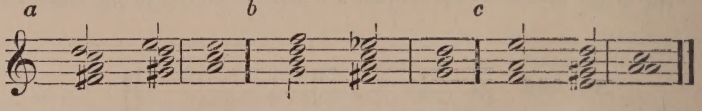


Parallel Seconds and Sevenths,

can occur but rarely, when one Septimechord passes into another. At *a* we have an absolute violation of all the laws of resolution. It can be defended on the ground that the *d* of the Soprano finds its resolutions in the 2d measure, and that the *e* is a new voice.

a *b* *c*

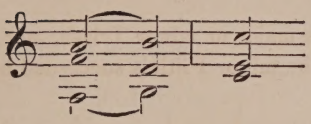
No. 229.



Parallel Sixths and Thirds,

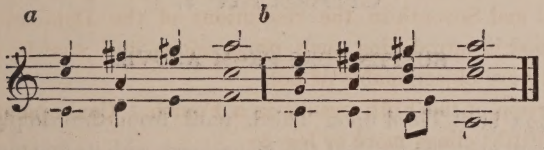
although so absolutely perfect in their agreement, have this disadvantage, that a long continuance thereof, particularly in the outer voices, will give a character of weakness and effeminacy to the harmony, not at all desirable.

One succession of Thirds has succeeded particularly in attracting the ill will of the old masters of harmony. It is the succession of two major thirds, which, it must

No. 230. 

be admitted, makes the lack of connection between the chords quite apparent, and is less satisfactory than an alternation of major and minor Thirds. But it depends upon their position and the other voices, whether this trifling objection is to be aggravated or ameliorated.

Thus, while

No. 231. 

the Thirds of the outer voices, at *a*, are certainly very disagreeable, the Thirds at *b*, between Soprano and Alto, are unobjectionable, the less so because the lower voice forms a connecting link.

When we glance again at all these prohibitions and licenses, we find them, after all, subject to the fundamental law, that in harmony no two essential voices must have the same melody, whether in Fifths, Fourths, Seconds or Sixths, and that if we violate this rule, we must hide it as well as possible. If the violation cannot be hidden, we must not make use of the progression.

PART IX.

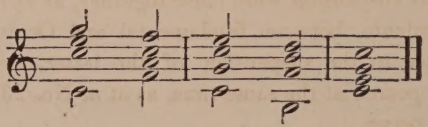
DISLOCATION OF CHORDS.

CHAPTER I.

SUSPENSIONS FROM ABOVE.

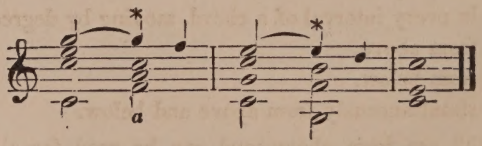
We have now built Third upon Third, until from the simple Third of natural harmony we have reached the Nonachord, with its five tones toppling one over the other. We have had successions of chords in all their variety, successions of Keys, distant and related—in short, our harmonic development has been a steady progress from beginning to end. But our labors in melody have not kept pace with it. Our efforts were only spasmodic, because in whichever direction our melody turned, it had to drag along with each separate tone a load of harmonic tones which it could not shake off, and which greatly impaired its locomotion. In other words: all our voices moved simultaneously from one chord to another, as in the following:

No. 232.



But cannot one of our voices linger while the others pass on?

No. 233.



The result is an apparent inconsistency. The tones, *g* and *e* appear in chords to which they do not belong. As if conscious, however, of their being out of place, they merge into a tone of the harmony ere the other voices have left the chord. This holding back of one or more voices, from the next harmony, is called

a Suspension;

the final step into the harmony is called its

Resolution,

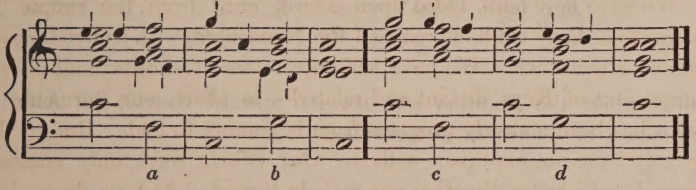
and since the disturbing tone formed a part of the harmony in the preceding chord, and in the same voice, the suspension is called:

Prepared.

Here we have all the condition under which a suspension is admissible:

1. It must be prepared,
2. It must be resolved, and
3. The suspension and its resolvent must not appear at the same time. Here

No. 234.



at *a* the octave of the fundamental is suspended, while the main interval appears in the upper voice. At *b*, the Fifth is suspended in the Tenor, while the main interval appears in the Treble. Still worse would it be, if the main tone and its suspension were close together, as at *c* and *d*.

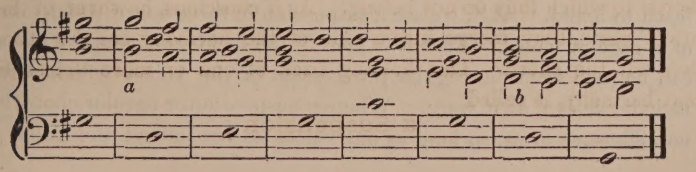
We must discriminate between fundamental and Octave; for there is nothing objectionable to the suspension of the latter, even though the fundamental tone appeared at the same time, as at *a*, No. 232.

Suspensions may occur

1. in every voice,
2. in every chord,
3. in every interval of a chord, moving by degrees:
4. from above.
5. from below.
6. simultaneously from above and below.

Those in No. 232 are from above, and can be used for all descending intervals. Here

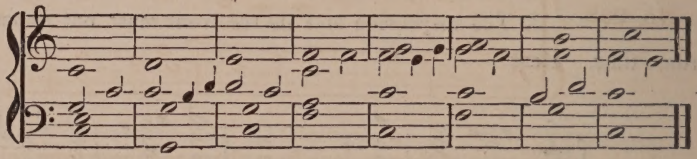
No. 235.



we give the descending scale with suspensions from above, wherever practicable. There could be no suspensions in the Bass, because at no place did it descend by degrees.

Sometimes suspensions take the form of regular chords as at *a* and *b*, but that need not trouble us, as we can treat them either as suspensions or as actual chords, the introduction of these suspensions was comparatively easy in the descending scale, but their introduction in the ascending scale will require the use of an old proceeding, first used in connection with the Dominant-chord: the introduction of a harmonic by tone; and

No. 236.



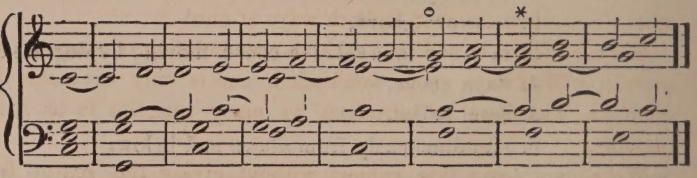
thus while the Soprano pursues its upward course, the Alto is enabled to retain its Tones in suspensions.

CHAPTER II.

SUSPENSIONS FROM BELOW.

All ascending intervals admit of suspensions from below, hence opportunities for them are easily found. Like those from above, they must be prepared, resolved, and must not appear simultaneously with the resolvent tone. Here

No. 237.

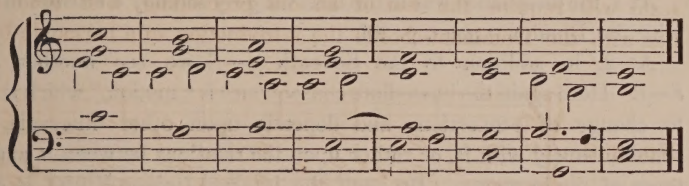


is the ascending scale with several very harsh suspensions, which we shall learn to avoid. At ×, we see a suspension in three voices which takes the form of a regular chord. That it is merely the incidental result of the suspension can be seen from the regular progression of the voices which carried out a melodic design, as it were. Whether suspension or regular chord, it can make no difference to us, so long as our voices do not offend the rules of correct

progression. But if the progression should differ from that of the chord which it resembles, then we are at once informed that it is a suspension. We see such a case in the 6th measure of No. 236, at 0, where the first chord *f*-(*a*) *c*-*e*-*g*, has the form of a Nonachord with omitted Third. But both, Seventh and Ninth ascending, stamp it at once as a suspension.

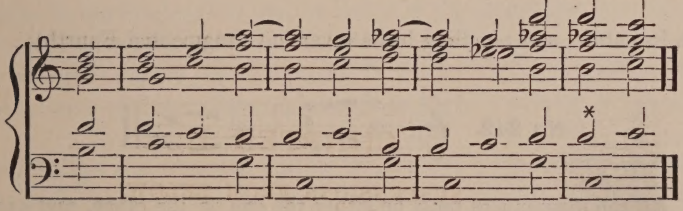
In the descending scale we avail ourselves again of the harmonic by-tones to introduce the suspensions from below.

No. 238.



In the combination of Suspensions from above and those from below there is nothing new to observe. Here

No. 239.



is an illustration of Septime and Nonachords in which Seventh and Ninth become Suspensions from above; the Third is suspended from below, and the Fifth, according to its nature, sometimes one way and sometimes the other; sometimes as at ×, in both ways at once.

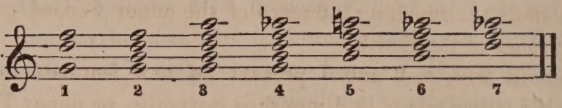
We need scarcely add that such an accumulation of suspensions, however correct, will always seem overloaded, and is only excusable because the intention was here to introduce as many varieties in as little space as possible.

We cannot leave this subject without giving the reason for the third condition of the suspension (p. 117.): that "it and its resolvent must not appear at the same time."

It is evident that if they were to appear together, they would form a dissonant interval,—a major or minor second.—Now the first condition of a dissonance is that it should resolve into a consonance, and the manner in which this is done explains the reason of the prohibition on p. 117.

We found our first dissonance in the Dominant mass, p. 27 and 29, and afterwards in the harmonies of the Dominant chord, p. 40.

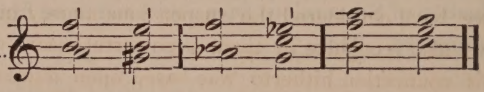
No. 240.



At 1, the dissonance was in the interval *g*—*f* already discussed in connection with the Dominant mass, p. 26.

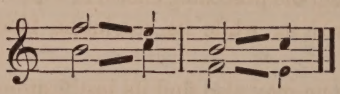
At 2, in addition to the Seventh *g*—*f*, we see another dissonance *b*—*f*. Here again the immediate consequence is "motion," which is equivalent to change of proportion, and depends upon other intervals appearing simultaneously with it, or rather upon the relations between it and the other tones of the harmony. By itself the interval (minor Fifth) is contracting

No. 241.



in its nature, and repelling in its inversion (augmented Fourth):

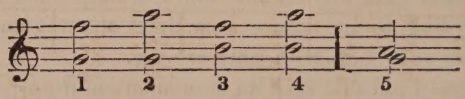
No. 242.



All the dissonances must be either the one or the other, and according to their bearings upon other tones select the mode of resolution.

Thus in No. 240. 3, we have the dissonant intervals:

No. 243.



Of these, we are acquainted with the 1st, 3d and 4th, but the second presents some new features. By itself it would represent nothing new, for the distance between *g* and *a* does not affect its character as an interval, and it would have to be treated as like the major Second, at 5. But here again we have to take into consideration its relation to other tones of the chord. Thus with *b*, it forms a Seventh, which as we know is contractive in its nature, and to distinguish this compound relation at No. 246, 3, from the simple relation at No. 243, 5, we call the former "a Ninth" while the latter is "a Second." This will account for the prohibitions in the inversions of the Nonachord, p. 71, and many analogous cases.

In No. 240, 4, although the Ninth is minor, which consequently gives us a diminished Seventh *b*—*a*♭, we can discover no new feature. Like the minor Seventh, No. 240, 1, the diminished Seventh is contractive in its nature, and overbalances the repelling influence of the minor Second *g*—*a*♭, by the intervening tones of the chord.

The intervals 240, 5, 6 and 7 present no new features, the dissonant intervals being either minor or diminished Sevenths, or minor Fifths.

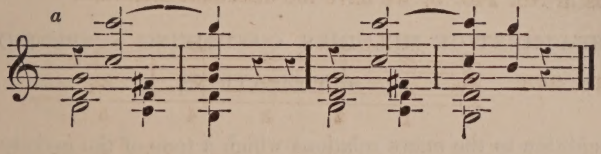
CHAPTER III.

ANTICIPATION.

Thus far we have considered the suspensions merely in a melodic point of view, but we also recognize in them a powerful means of harmonic connection. This connection hitherto was based upon mutual tones, and such progressions as were incident to the resolution of the Dominant harmonies. In the Suspension we see both elements united: for the suspended tone is certainly retained from the preceding chord, in which it found its justification; hence connected with it, while its resolution binds it equally to the new chord.

But the foreign tone may also find its justification in the succeeding chord. This may take place in one or more voices, (*a*) and may result in tones essential to the harmony, or may in turn become a suspension (*b*).

No. 244.

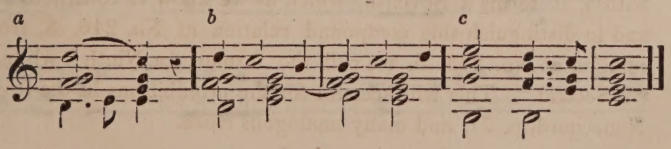


Such tones are called

Anticipated Tones.

They can hardly be said to resolve into a chord, as in reality the motion of the other tones causes the resolution. Of preparation there can be no possibility. Here

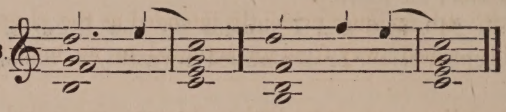
No. 245.



at *a*, we have the anticipation in the Bass; at *b*, in the Treble, and at *c* in several voices together.

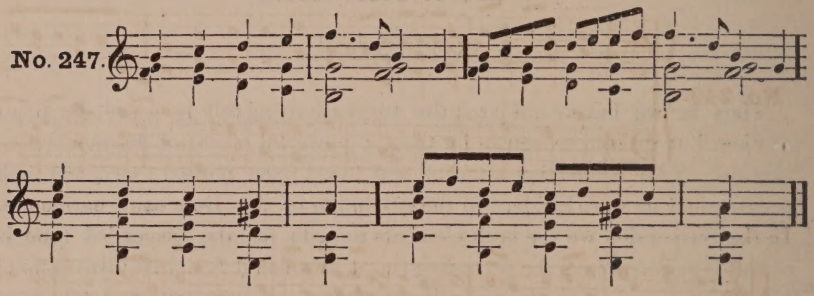
Not only may the tone of a chord be anticipated, but it may change its position as the anticipated chord enters.

No. 246.



Such anticipation is called FREE. Both kinds are very effective in the figuration of a melody.

No. 247.

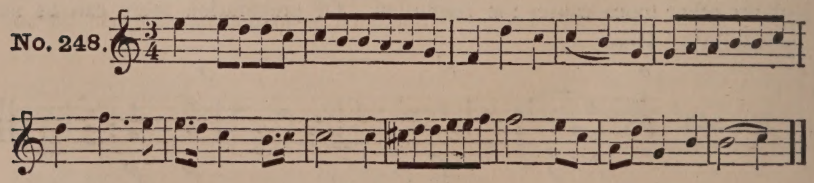


CHAPTER IV.

TREATMENT OF MELODIES CONTAINING SUSPENSIONS OR ANTICIPATIONS.

In addition to the many relations which a tone of the melody may bear to the harmony, we have now those of suspension and anticipation; and we have to decide whether it is feasible or advisable to treat a tone as one or the other. In examining the following melody:

No. 248.



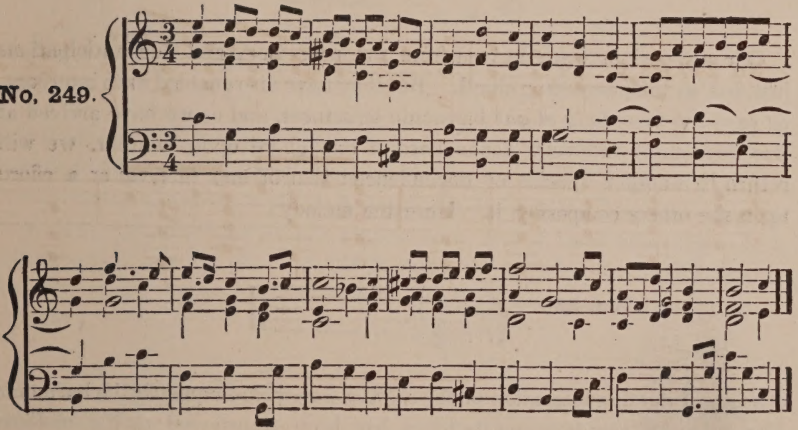
we discover 1. That the final note does not fall upon the accented part of the measure;

2. That the actual close seems to be at the 8th measure; while the rest is but a "Coda," and that already in the 7th measure the Dominant chord leads to the Tonic;

3. That in the 4th measure evidently intended as the close of the Thesis, the final note is pushed away from an accented to an unaccented mensural part.—

All these deviations and contradictions become reconciled when we call suspensions and anticipations to our assistance. The melody, then, might be treated thus:

No. 249.



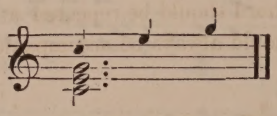
PART X.

THE TRANSIT OR PASSING TONES.

INTRODUCTION.

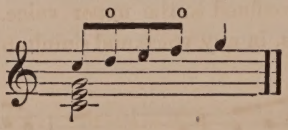
Our suspensions were derived from the preceding, and our anticipations justified, in the succeeding chord. But they have also enabled us to interrupt, or vary the monotony of our harmonic structures, and as we have arrived at this freedom by the very dependence of one chord upon another, we will return to another species of dependence: that of one interval of a chord upon the others composing it. Here the melody

No. 250.



consists of the disentegration of the chord *c*—*e*—*g*, consequently the harmonic connection existing between its tones has been transferred to the melody, constituting its melodic connection. But we know that the tones *d* and *f* exist between the harmonic tones, and by placing them upon unaccented mensural parts, we can incorporate them with the melody, without disturbing the harmony. Thus lying between harmonic tones, they fill the gap between them, and are of a purely melodic nature. They agree with the harmony, because they issue from, and pass to a harmonic tone.

No. 251



They are called

Passing-Tones,

and have in this sense already been introduced in a scale to which they did not belong (p. 24, No. 29) without destroying the identity of the scale.

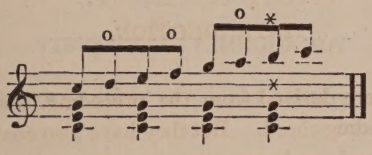
CHAPTER I.

THE DIATONIC TRANSIT.

Passing tones may be diatonic or chromatic, and they may fill up the space between large and small intervals. They may be strictly "Passing Tones," or they may be

Bastard-Tones or Appoggiaturas.

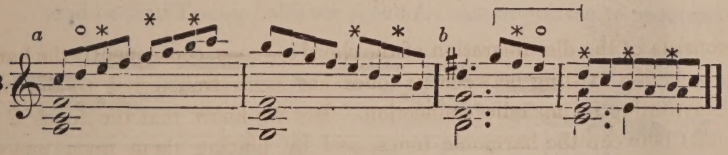
No. 252.



They are passing-tones when placed between harmonic tones upon the unaccented mensural parts, like those marked ° in No. 251. They are Bastard-tones or appoggiaturas when they usurp the place of the harmonic tones, or when they are placed between a passing-tone and a harmonic tone. It is not necessary that the chord should be repeated at every harmonic tone, or that the passing-tones should always be accompanied by the same chords.

Here

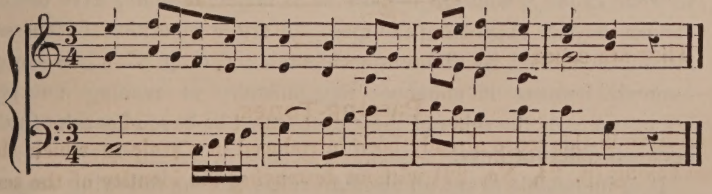
No. 253.



we have accompanied the ascending scale with the Sub-dominant and the descending scale with the Dominant chord (*a*). At *b* we have three passing-tones in succession, two of them belonging to the first chord, the third as Bastard Tone over the second chord.

Passing-tones are not confined to the upper voice. They may be introduced, like the suspensions, in any voice, and simultaneously in several voices. Here

No. 254.



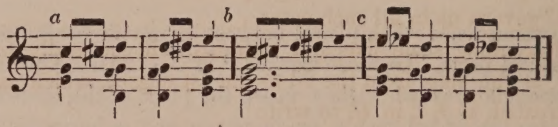
we have a little phrase with simultaneous passing-tones in different voices.—From the above we can see that every Third can be filled up by a diatonic passing-tone, and every Fourth with two, or strictly speaking with one passing-tone and one bastard tone. In reality the difference between the two is of very little consequence to us.

CHAPTER II.

THE CHROMATIC TRANSIT.

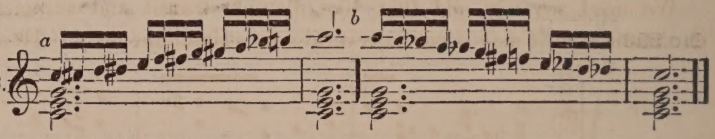
The chromatic passing-tone enables us to fill up every interval that leaves room for a tone. Here

No. 255.



at *a*, we have introduced tones, foreign alike to chord and key. At *b*, we have three passing-tones within the interval of a Third. At *c* we introduced passing-tones with flats. We are not limited in extent of interval, or number of passing-tones. As at *b*, we filled up a Third, so here

No. 256.



we fill up an octave.

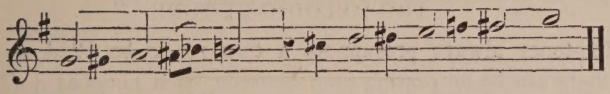
The cross relation of *c* and $c\sharp$, or *e* and $e\flat$ is so evanescent and so purely the result of melodic current, that it will not disturb us. The Orthography of the chromatic scale is always based upon the relation of the passing-tones to chord and key. The diatonic succession of the scale ought not to be lost sight of. Thus it would have been wrong, in the key of *c*, to write $e\sharp$ for *f*, while in the key of B major, it would have been the only correct way of expressing the tone. A triple repetition of the same note, although qualified by different accidentals; *f. i.* $a\flat$, $a\natural$, $a\sharp$, is always wrong —partly because it enhances the difficulty of reading, but principally, because one or the other of these notes must be beyond reach of relationship between different keys.

It is impossible to set up absolute rules, but the following suggestions, if

attended to, will guard against the most flagrant violations of chromatic notation.

As already stated our first care must be to have the diatonic scale represented.

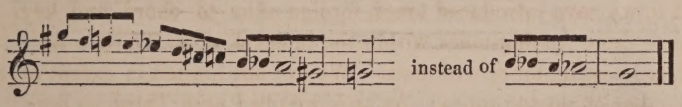
No. 257.



Now, with *g* in the key of G, as starting tone, it would be wrong to call the next tone *a*♭, because the key of *E*♭, the first key in which the *a*♭ could appear is more remote from *G*, than *A*, with its *g*♯. Between *a* and *b*, we have the choice between *a*♯ and *b*♭, because both are equidistant from the key—the first pointing to *B*-minor, the second to *G*-minor. The chord which supports the scale will decide our choice. Thus over the chord G. I. we shall use *a*♯, but over the chord g, IV_4, we shall use *b*♭. Similar considerations will govern us in all such cases.

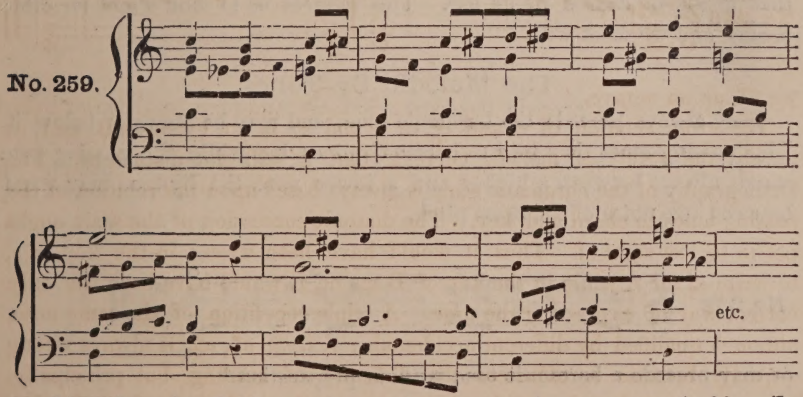
In the descending scale flats and naturals, will naturally predominate, particularly at the step from the 2d to the 1st degree, which latter should not be anticipated, as *f*, *i*, in *G*, to write

No. 258.



We need scarcely add that, like diatonic transit and suspension, the chromatic transit may occur in several voices simultaneously. Here

No. 259.



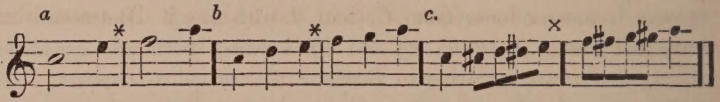
we have introduced chromatic passing-tones, wherever practicable. In using the transit of either kind we have to guard against consecutive Fifths and Octaves.

CHAPTER III.

THE MELODIC BY-TONE.

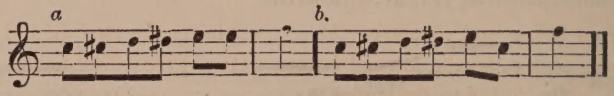
Passing-tones always presuppose a tone-gap to be filled up by them. Hence there can be no passing tone between such notes as *c*, *d♭*, or *e*, *f*.—Yet there may be felt, at such places, the want of a tone insertion—perhaps to animate the rhythmic motion p. 65. Here

No. 260.



the gaps between *c* and *e*, and *f* and *a*, at *a*, can be filled up by diatonic passing tones as at *b*, or chromatic, as at *c*, but there was no room for either between *e* and *f* at ×. Rhythmic animation might have been secured by tone repetition,

No. 261.

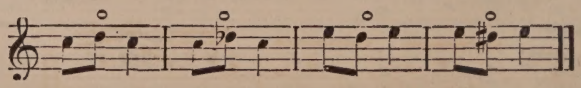


as at *a*, or by harmonic by-tones as at *b*; but it is easily seen how the flow of the melody is retarded at *a*; and the remedy of the harmonic by-tone (*b*) may not always be feasible—perhaps on acccunt of faulty progressions that might be caused by its use. This induces us to look about for other means, and we meet with

The Melodic By-Tones.

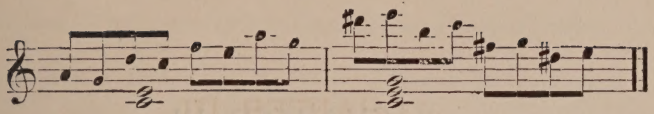
They always precede the harmonic tone, and may be above or below it. Like passing-tones they lead to harmonic tones, but while the passing-tone stands always between a higher and a lower note, the by-tone may stand between two notes of the same pitch.

No. 262.



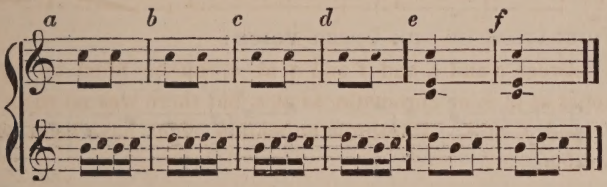
or may precede a harmonic tone without preparation.*

* The preparation of the passing-tone consists in its being the issue, as it were, of the harmonic tone (p. 124.)

No. 263.

But this very freedom of entering in the melodic by-tone, makes it incumbent upon it to cling closely to the harmonic tone which it precedes. Consequently as a general rule the half-step is used for ascending and the full step for descending by-tones. In this we follow the 7th note of the ascending and the 2d note of the descending scale, or the Fifth and Third in the resolution of the Dominant chord.

One of the most important offices of the by-tone is the embellishment of re-iterated tones,

No. 264.



either from below (*a.*) or above (*b*) or combining the two (*c* and *d.*) The upper may also go to the lower by-tone, before proceeding to the harmonic tone (*e,*) or the lower to the upper (*f.*)

Incidentally we discover here that the melodic embellishments, such as

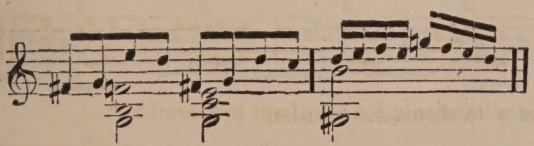
The Appoggiatura.

The Trill. *tr*

The Turn and Double-Turn

are nothing but by-tones combined with the essential tones of the melody. From the very nature of the by-tone, cross relations caused by chromatic by-tones are inoffensive.

No. 265.



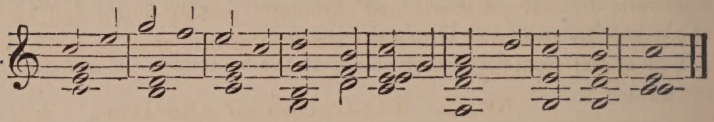
The ear appreciates its bearing upon the melody, and takes harmonically no account of it.

CHAPTER IV.

APPLICATION OF PASSING TONES AND BY-TONES.

We shall begin our labors with the following phrase:

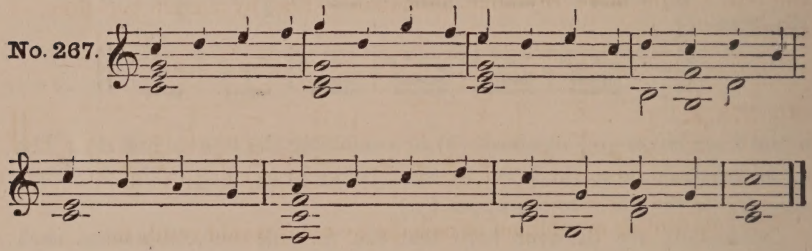
No. 266.



by

1. FIGURATION OF THE UPPER VOICE:

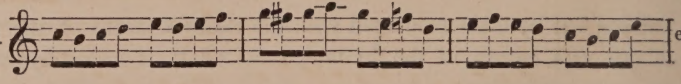
No. 267.



Our passing-tones and by-tones, here, are all diatonic. Although it was not our object to carry out any particular design, we see the resemblance between the 3d and 4th measure, in which the melodic by-tone returns to the essential tone of the melody, before proceeding to the harmonic by-tone, figurating as it were, a single tone.

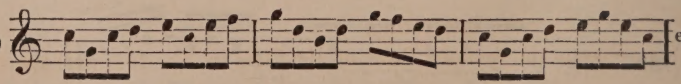
This suggests the following figuration of No. 264:

No. 268.

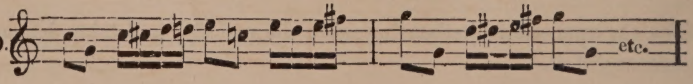


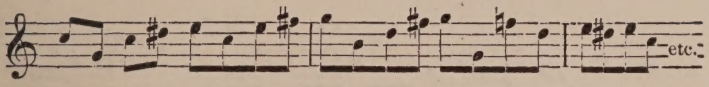
The combination of harmonic and melodic figuration leads us to

No. 269



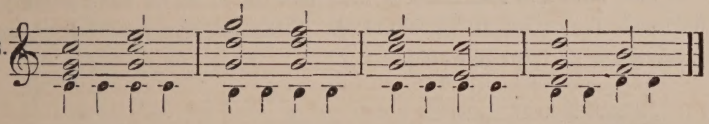
Thence we step to chromatic transits,

No. 270.

which again leads to harmonic by-tones and chromatic passing-tones.

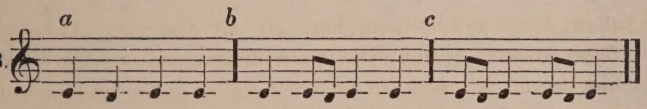
No. 271.

If we discontinue our illustrations, it is not because we have exhausted them. On the contrary what we have given is but an indication of the absolute inexhaustibility of figuration, developed from combinations of harmonic by-tones, diatonic and chromatic passing-tones, and melodic by-tones, and by means of which the simplest phrase may be made the source of uncounted melodies.

No. 2. Figuration of the Bass.

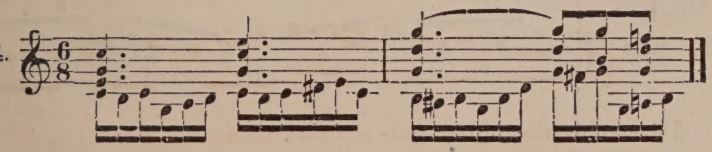
We turn to the Bass next, because as an outer voice, it has a larger area for motion. Returning again to No. 264, we begin our labors by giving to the Bass a little more rhythmic animation.— first by simple repetition of notes.

No. 272.

The substitution or addition of melodic by-tones would result in

No. 273.

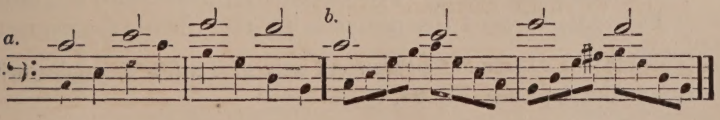


The addition of harmonic by-tones and passing-tones to the design *c*, suggests:

No. 274.

and others even more interesting.

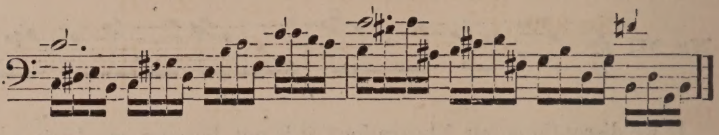
If we change the melodic Basis of the Bass in No. 264, perhaps thus:

No. 275.



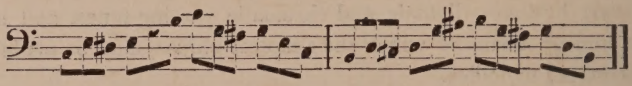
our field becomes at once immensely expanded. Here is a formation

No. 276.



suggested by No. 272 *a*, and here another suggested by No. 272 *b*.

No. 277.

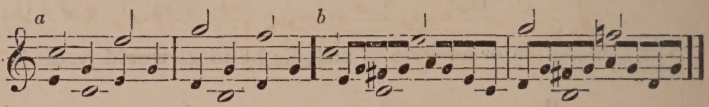


With the ample room of the Bass, the student will have no difficulty in multiplying these illustrations.

3. Figuration of the Middle Voices.

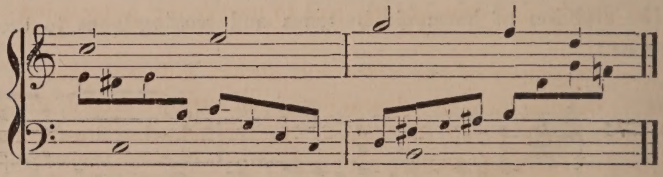
Here the space for motion becomes less ample, unless we contract the two (the Alto and the Tenor,) into one voice, as we have already done in harmonic figuration, p. 75, No. 120. Such process would lead us first to formations, perhaps like this:

No. 278.



Making room by moving the Bass an octave lower, would allow of formations like this:

No. 279.



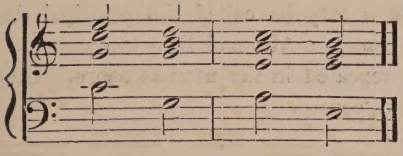
and thousands of others.

These indications are sufficient for the practice of harmonic and melodic figuration, but as a last practice we recommend to the student

The Application of Passing-tone, By-tone, Harmonic Figuration and Suspension to Harmonic Sequences.

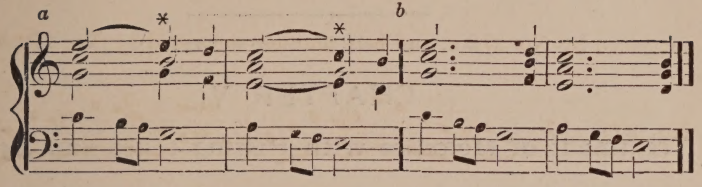
This labor is so simple that we shall only give a few examples, which we attach to the sequence, No. 94.

No. 280.



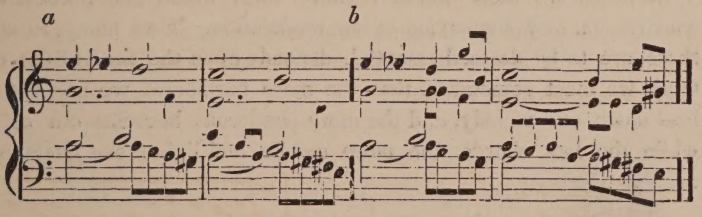
Here

No. 281.



at *a*, in order to avoid consecutive Fifths with the Bass, we had to introduce suspensions, although our main object was to fill up the quart-step of the Bass, with passing tones. At *b*, we suspended all the upper voices.—The Soprano, as a matter of course, only admits chromatic passing-tones:

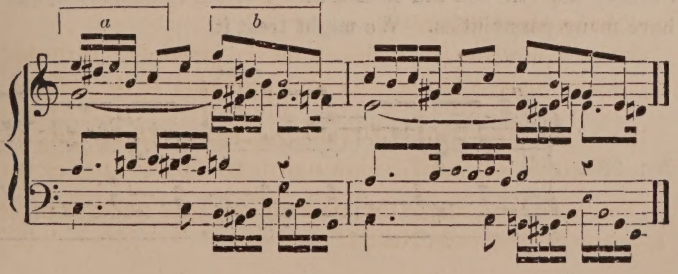
No. 282.



which we have here introduced, together with suspensions and their resolutions. The Alto had to be changed from No. 280, to avoid octaves with the bass. At *b*, we have added harmonic by-tones to the passing-tones of the melody, and consequently had to modify the progression of the Bass somewhat.

Thus the motion of one voice will always influence that of the other. But we can also introduce figural designs of our own accord, and carry them through several, or all the voices. In the following illustration we have introduced two such designs.

No. 283.



of which the one at *a* may be called the principal design. The Tenor repeats it pretty accurately; Alto and Bass less strictly. The one at *b*, is secondary although repeated in the next measure. Otherwise the voices pursue an independent course.

CHAPTER V.

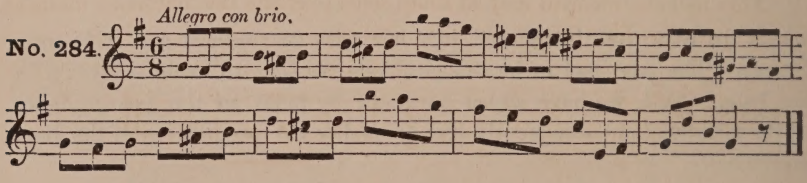
Treatment of Melodies with Passing-tones and By-tones.

To the many points we had to consider in the harmonization of a melody, we have now to add the following:

1. Which tone had better be left free, and
2. Which tones had better be treated as essential to the harmony?

Essential we must consider those tones which are necessary for the construction and connection of our modulation. How many, in addition to these, are to be deemed essential, depends upon the taste of the composer. Only, we must remember, that the more harmonies we use, the more we load down our melody, and the more ponderous becomes our composition, while the less chords, the more mobile and lighter the character of our music. Here

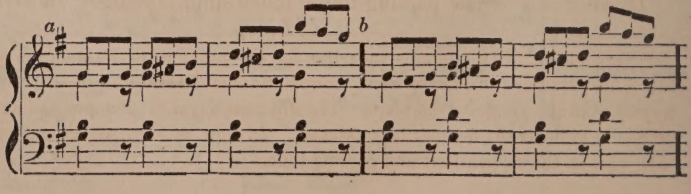
No. 284.

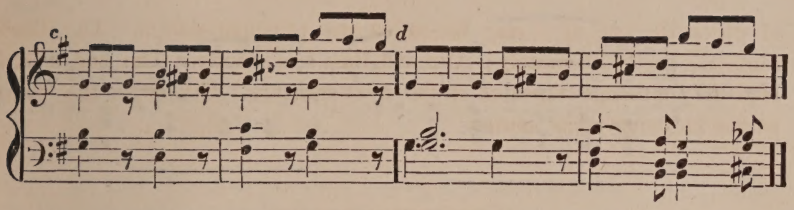


is a melody intended to be light and mobile. Can this be possible if every tone of the melody has its corresponding chord?

Essential in this case are only the harmony of the final cadence, indicated in the 7th and 8th measures. For the remainder of the melody we have many possibilities. We might treat it

No. 285.





as at *a*, or *b*, for a rapid movement. The treatment at *c*, is less mobile, and that at *d* more suitable for an Andante.*

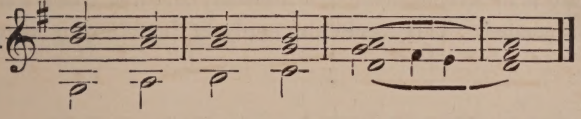
CHAPTER VI.

PASSING-TONES CONTINUED.

The most decided advantage accruing to us by the passing-tones, is: that we are no longer obliged to load every tone of the melody with a chord,—the harmonic tone can co-exist with others foreign to, and independent of the harmony. Thus we have thrown off entirely the yoke of chords, and our harmony can be resolved into four voices, each one of which, *based* upon, but not *fettered* by the harmony, may develop itself melodically.

This melodic element may at times even overrule the harmonic element, as in passages like this:

No.286.



wherein the melodic progression of the Bass makes us alike unmindful of chords and discords. Thus our passing-tones gain gradually in weight and importance. Already have they taken a firm stand against the harmony. We next see them as pseudo-harmonic tones,

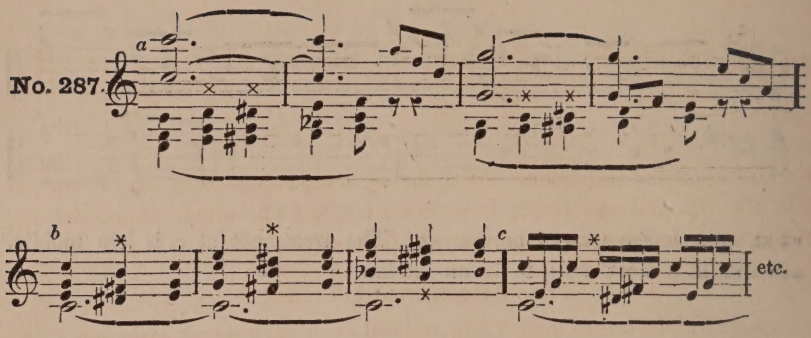
1. In Passing or Transient Chords.

These occur when passing-tones move simultaneously in several voices,

---

* Supplement VII, contains melodies for the practice of Passing-tones, melodic by-tones, suspensions from above and below, harmonic figuration—in short, of everything treated of in the foregoing chapters. The different terms of Tempo, and expression, will generally indicate the manner of treatment. In slow movements all the voices ought to take part in the suspensions and passing-tones.

No. 287.

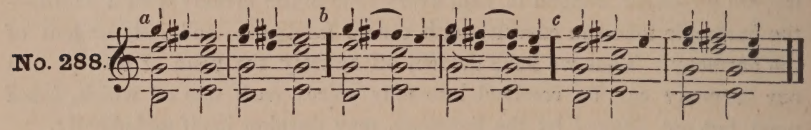


as at ×, and as they are merely accidental formations, brought about by the current and eddies of the melodic element, they are governed by no harmonic laws, but move in accordance with the dictates of melodic succession.

2. In Suspensions.

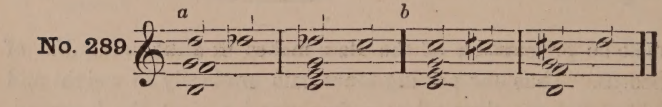
These occur when simple passing-tones like those

No. 288.



at *a*, are retained as suspensions (*b.*) as if they belonged to the previous chord. The passage *c*, is only a manner of writing that of *b*. The *b-g-d-f♯*, in this case is to be considered as a transient chord, of which the *d* and *f♯* have been suspended. This would also apply to the following at *a*;

No. 289.



but not at *b*; for there is no such chord imaginable as: *c-e-g-c♯*, and consequently the second *c♯* is the suspension of a passing-tone.

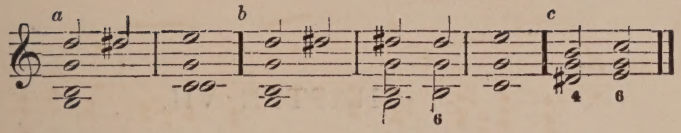
Heretofore our transient chords assumed the form of well known harmonies; but at No. 289, *a*, we find one, *g-b-d♭-f*, that is absolutely new to us, so that

3. New Harmonies derived from Passing Tones,

form another important result of these accidentally discovered means.

Here,

No. 290.



we give another illustration. At *a*, the $d\sharp$ is a passing tone. At *b*, we retain the $d\sharp$, and the result is a formation, *g-b-d*$\sharp$, which re-appears as Sextachord, and as Quartachord at *c*. It is called

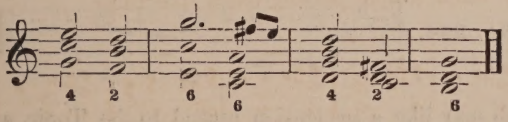
The Augmented Triad,

on account of its augmented Fifth, and although each minor scale has such an augmented chord on the 3d degree, (p. 67, No. 103,) it is rarely, if ever, used in the key to which it belongs.*

4. Passing-tones as Modulatory Means.

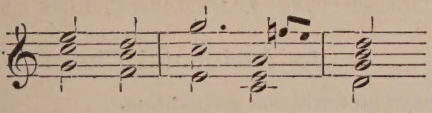
Although on a former occasion (No. 133,) a whole series of chromatic passing-tones were unable to drive us out of the key, we see here

No. 291.



a single note ($f\sharp$) influence the turn of the modulation. We have evidently modulated into *G*; but if we doubt the agency of the $f\sharp$, let us substitute $f\natural$.

No. 292.



and we shall be convinced that it was indeed the $f\sharp$, that made the modulation a legitimate result.

We can account for the power of the passing-tone in the one place (No. 291,), and its impotency in the other (No. 133,) by the fact that in No. 291, we see but one passing-tone, and that one, belonging to the nearest related key, while in No. 133, we see an accumulation of them, foreign and related, which naturally neutralize the importance of each other.

---

* Transient chords, when the result of chromatic passing-tones are comprised under the name of

Altered Chords,

and as such are treated by some Harmonists as independent formations.

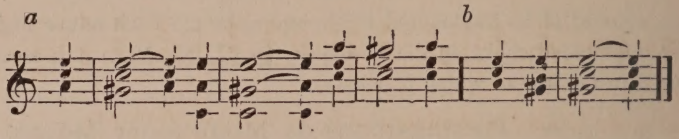
CHAPTER VII.

THE AUGMENTED TRIAD.

1. As Harmony of the Minor Scale.

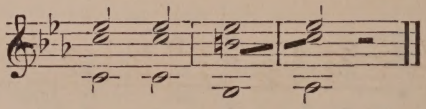
We find it upon the 3d degree of the minor scale. But it may also appear as the accidental result of a melodic by-tone to the Tonic harmony:

No. 293.



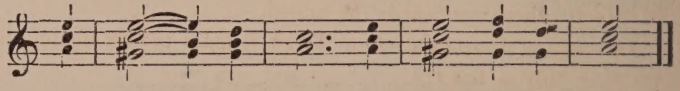
as at *a*, or it may be developed from the Dominant harmony, as at *b*, or it may appear unprepared:

No. 294.



and its Fifth may like a suspension ascend to the Tonic, as in the above, or it may be retained in one voice while the others proceed and form with it one of the Dominant harmonies:

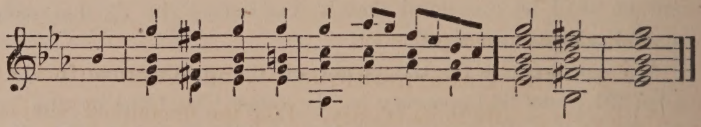
No. 295.



2. As Accidental Chord.

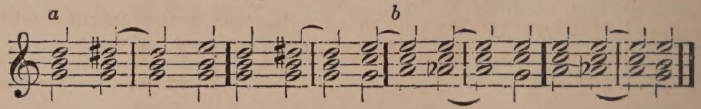
Here also it may enter without preparation.

No. 296.



or be developed from the preceding chord:

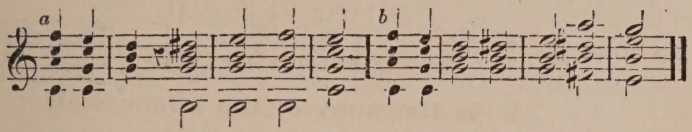
No. 297.



from a major Triad (*a*) or a minor Triad (*b*); in either case resolving according to the direction given by the chromatic alteration of the original Triad.

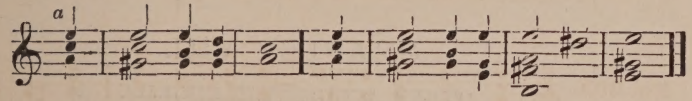
Although this chord does not absolutely force us into a new key, it may at least serve as a preparation for it.

No. 298.



Here, at *a*, we remain in *C*-major, at *b*, we modulate to *E*-minor. This double capacity clings to it, even when appearing in a minor key. Here

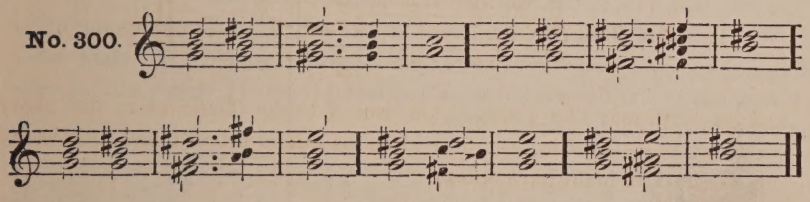
No. 299.



at *a*, we remain in *A*-minor; at *b*, we move to *E*-major.

These different results are greatly increased in number when this Triad enters into foreign keys. Thus developing it from the Dominant chord of *C*-major, we may use it for the following modulations:

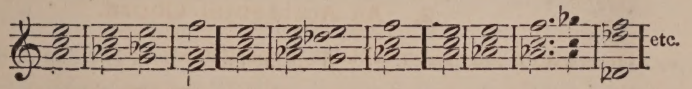
No. 300.



to which others can easily be added.

Developing it from a minor Triad, it leads to new modulations, of which we give only a few:

No. 301.



But there is one property:

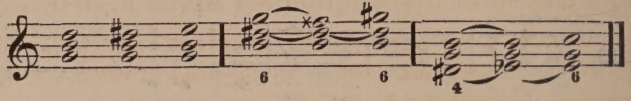
3. The Enharmonique of the Augmented Triad,

which adds greatly to its efficacy. Like the diminished Septimechord with its three minor Thirds, the augmented Triad with its two major Thirds, each of its inversions can in turn become a fundamental chord, and lead to different keys. Thus the inversion of $c - e - g\sharp$
is $e - g\sharp - c$,
which is enharmonically equal to $e - g\sharp - b\sharp$.
The inversion of the latter chord: $g\sharp - b\sharp - e$,
again is enharmonically equal to $a\flat - c - e$, etc.

From this it follows: that all the progressions and modulations of the

augmented Triad can be applied in a three-fold manner, of which the following is an illustration.

No. 302.



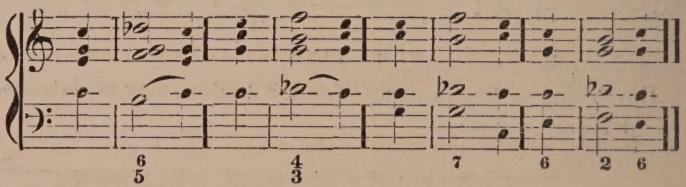
CHAPTER VIII.

OTHER ACCIDENTAL CHORDS.

We know of one already, in No. 289, *a*, which originated in the Dominant chord, and which we obtained by leading the Fifth downward, through a chromatic passing-tone. It was then a mere transient chord, the accidental result of the suspension of a passing tone. So was the augmented Triad, No. 290, which on p. 138, we treated as accidental chord.

We shall now return to the chord of No. 289, *a*, which on account of its frequent occurrence, deserves more than a passing notice. We shall treat it now, not as a transient, but as an accidental [altered] chord, and as such allow it to enter unprepared. Here

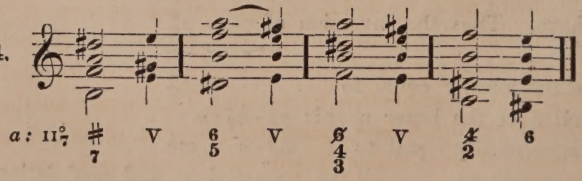
No. 303.



we see it in different positions. We know it to be a Dominant chord with depressed Fifth. As such it may share in all the progressions of that chord which do not interfere with the descending Fifth.

The same result would also have been secured, if we had altered the Third of the secondary Seventhchord, on the second degree in minor (II°_{7}), which in No. 303, would then be *f*: II°_{7} and resolve into the Dominant Triad. Here, to economize room,

No. 304.



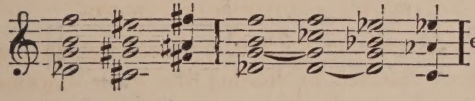
we have selected *a*-minor.— To those fond of imposing names, it must be peculiarly gratifying to find in this chord

The Chord of the Augmented Sixth-Fourth-and-Third.

which has been accorded to it by RICHTER, and others before him.

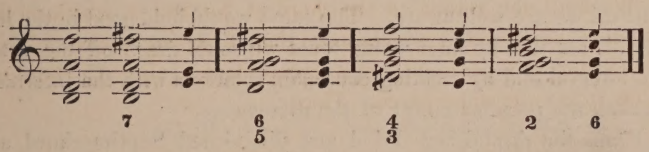
If we once accept this chord as an independent chord, *i. e.* independent of preparation but with fixed resolution, we must also speak of the various deviations which are practiced in connection with it. Most of them find their justification in those of the Dominant chord, but to them we may add the deviations caused by enharmonic change of the altered Fifth, or other of its intervals.

No. 305.



In No. 303, we altered the Fifth of the Dominant chord by depression.— We may also alter it by elevation:

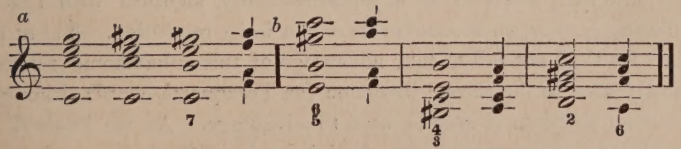
No. 306.



in which form it shares all the progressions of the Dominant chord reconcilable with the altered Fifth, and the deviations brought about by enharmonic changes.

The elevation of the Fifth in the major Triad gave us the augmented Triad. When we add to this augmented Triad a Seventh:

No. 307.

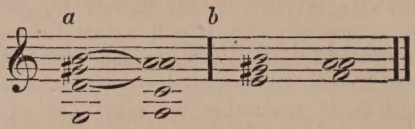


we gain a formation as at *a*, which could also be considered as an independent chord; the more so, as we find it without having recourse to chromatic alteration, on the third degree in minor. At *b*, we have given its inversions in which we have taken particular pains to separate the Fifth and Seventh by intervening tones, so as to atone by seeming Tetraphony for the peculiar vagueness caused by the forced ascending direction of the altered Fifth.

The resolution of the minor Third into a unison is more or less

dissatisfactory in whatever combination it occurs, even in the deceptive cadence of the Dominant chord, or the triad succession of V, VI in minor.

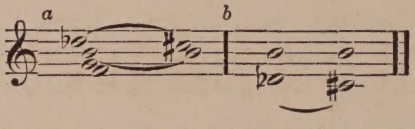
No. 308.



less disagreeable in the Dominant chord *a*, because the Fifth of the succeeding Triad gives a fulness, which we sadly miss at *b*.

Similar care must be taken with the depressed Fifth of the Dominant chord, although for different reasons. Here

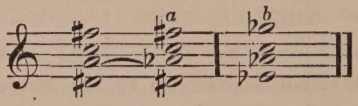
No. 309.



although *b* - *d*♭ has the form of a diminished Third, its tonal effect is identical with that of the major Second *b* - *c*♯, and of the repelling power of that interval we are well aware. The same would hold good in the inversion (*b*), were it not that by intervening tones we could draw off the attention from this interval and by creating consonant relations with the intermediate tones, weaken the peculiar power of the dissonance.

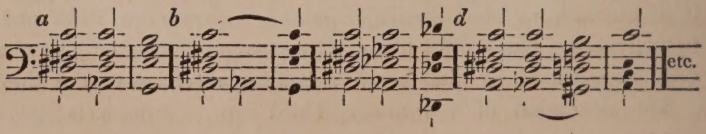
From the diminished Triad and diminished Septimechord, also, we can develop accidental chords by means of alteration. Thus by depression of the Fifth.

No. 310.



we gain here a chord at *a*, enharmonically identical with that at *b*, but differing greatly, on account of its origin in its resolution. Yet at the proper time we shall not fail to take advantage of this enharmonic relation. It is mostly used in the second inversion (as Terzquarta-chord) although even in its other positions it may be used to advantage. As we know it to be the result of a passing-tone, we shall have no difficulty in understanding its various progressions, which are simply the deviations of the diminished Septimechord, compatible with the alterations of the Fifth.

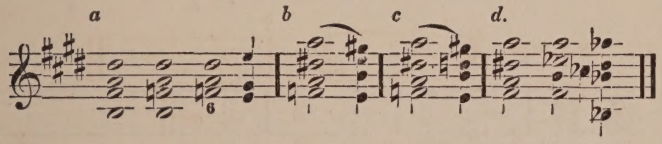
No. 311.



At *a* the $a\flat 2$ is strictly a passing-tone, and as all the other intervals pursue their legitimate course, we have no new result. At *b*, we recognize one of the deviations of No. 197. At *c*, enharmonique carries us to $d\flat 2$. At *d*, the same agency carries us to *a*-minor.— It will not be difficult to increase the number of modulations, when we once look upon this accidental chord as a Dominant chord.

The diminished Triad VII°, is also subject to alteration of its Third, by by means of depression. Being derived from the Dominant chord, it is in fact but the same chord as the Dominant chord of No. 300, with omitted fundamental.

No. 312.



At *a*, we see the derivation, which leaves it as Sextachord. In this form it is mostly used. At *b*, we see it with four voices, with its resolution into the Tonic Triad. At *c*, and *d*, we see deviations from its natural resolutions. This chord is known as

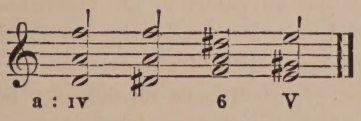
The Chord of the Sharp, Or Augmented Sixth.

we, if we choose to name it at all, shall call it

The Augmented Sextachord.

It may also be derived from the 4th degree in minor, in which case we arrive at it by elevating the fundamental, and then inverting the chord, in which

No. 313.



case it resolves into the Dominant. This is only a change of names, without change of facts.

The depression of the Fifth may also extend to the diminished Septime-chord, which we know to be a minor Nonachord with omitted Fundamental, so that the depression in this case is really that of the Third.

This gives us again a new chord, honored by many with the title of

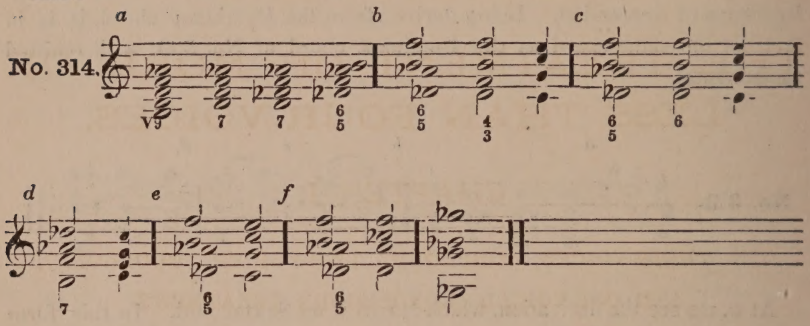
Chord of the Augmented Sixth-and-Fifth.

If we need a name at all for it, we had better call it

The Augmented Quintsextachord.

Here

No. 314.



at *a*, we can watch its development until it reaches the form in which it is most used. At *b*, the consecutive Fifths of its resolution are avoided by leading it first into a Terzquartachord. At *c*, we interpose an augmented Sextachord, to prevent the faulty progression. At *d*, we see it in fundamental form. At *e*, we brave the consecutive Fifths, because they are not in the least offensive. At *f*, we convert it by Enharmonique into a Dominant chord, which opens the way to all the deviations of that chord.

PART XI.

THE TREATMENT OF MORE OR LESS THAN FOUR VOICES.

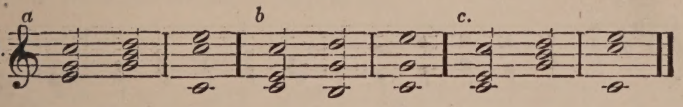
CHAPTER I.

THE THREE-VOICED, (TRIPHONIC) TWO-VOICED, (DUOPHONIC) AND ONE-VOICED (MONOPHONIC) TREATMENT.

Our experience has already shown us that even four voices are not at all times sufficient for the complete rendering of chords, unless aided by harmonic by-tones.

The triads need but three voices, and in some cases, as in Sexta- and Quartachords, are even easier handled in that form. But we know that the position and the current of the voices frequently prevents the reaching of tones we most need. Hence in Triads in order to write as complete as possible, we must avoid some positions. If *f*, *i*, we were to accompany the first three notes of the scale.

No. 315.



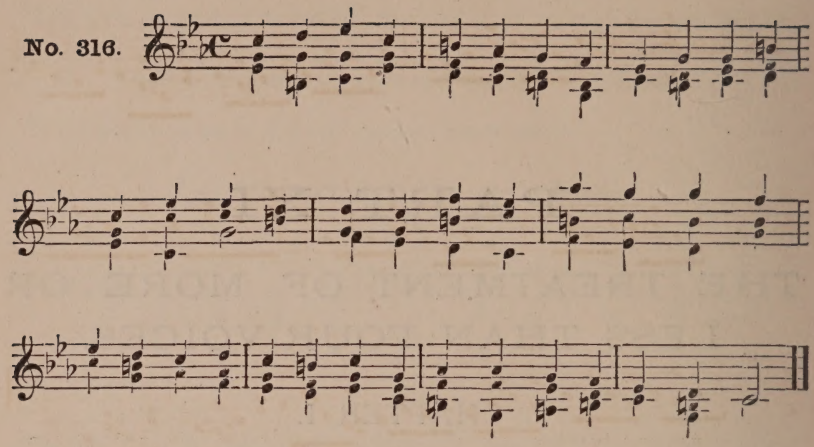
we would prefer *a* to *b* and *c*, although at *b* we end with a complete chord, and at *c*, we have fundamental chords throughout.

The Dominant chord, except in inversions, leaves the succeeding Triad always incomplete; but we know that it may give up its fundamental and become a diminished Triad; or it may give up its Fifth or Third.

The Nonachord would have to give up its Third and Fifth, unless we substitute a derived Septimechord, in which case we shall give up the Third (the Fifth of the original Nonachord.)

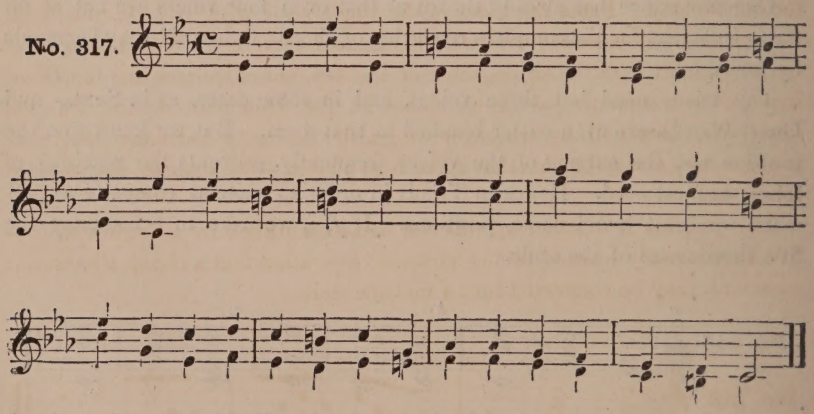
According to these principles No. 114, might in triphonic manner be treated thus:

No. 316.



In duophonic manner we would cling closer to the combinations of our first harmonic masses, with its Thirds and Sixths.

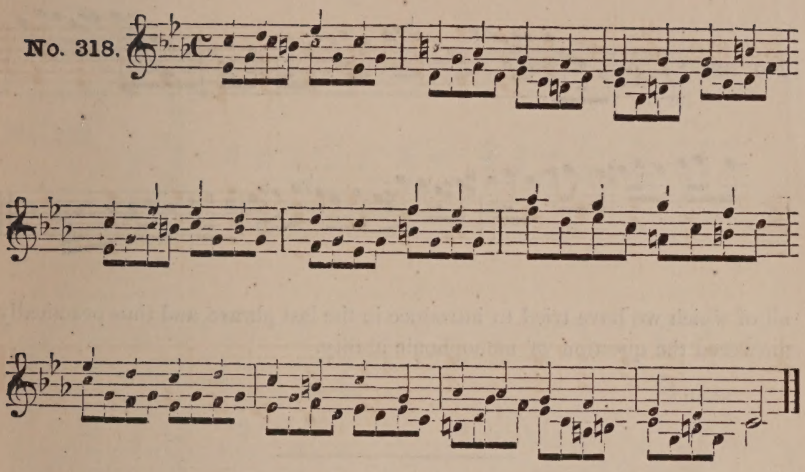
No. 317.



From the above we may learn that of the consonant intervals we may use unhesitatingly the unison, octave, Third and Sixth. But we shall use the Fourth only when lying between Sixths and Thirds, or when diatonically reached. The Fifth should be used only when taking the place of a Dominant harmony or some secondary Septimechord. Of the dissonant intervals we may use all, except those whose resolution would form a Fifth or Fourth.

With harmonic by-tones and passing-tones, however, we can eke out the harmony and make the voices more flowing.

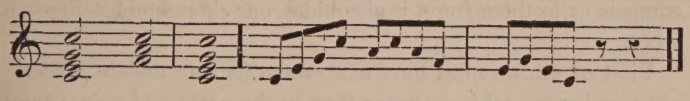
No. 318.



Finally we return to our monophonic composition.—We may now admit, that the scale was the first and most necessary, but withal a very poor basis for our melody. From the tones of the single scale with its I. V. and V. I. for half and full cadences, we soon emancipated ourselves. Our Thesis is no longer content with the strait-jacket of the key, but modulates into the Dominant, or as a separate part, even closes in the Dominant or the Parallel key.—We carry with us, wherever we go, the desire for harmony, and with it come the embellishments that make it so pliable,—the suspensions, passing-tones, &c.

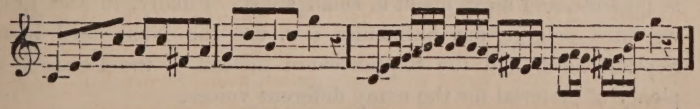
The question is whether all this can be accomplished by a single voice?—We have already learned in our harmonic figuration that a chord, a harmonic structure, may be converted into a melodic one,

No. 319.



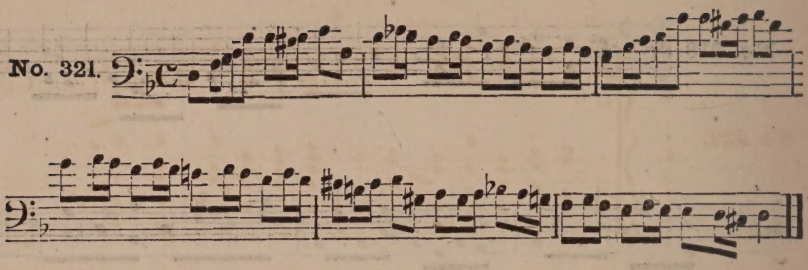
and that consequently, we can indicate every turn of the modulation:

No. 320.



or carry along, suspensions, passing-tones and by-tones,

No. 321.



all of which we have tried to introduce in the last phrase, and thus practically answered the question of monophonic ability.

CHAPTER II.

THE POLYPHONIC (MANY-VOICED) COMPOSITION.

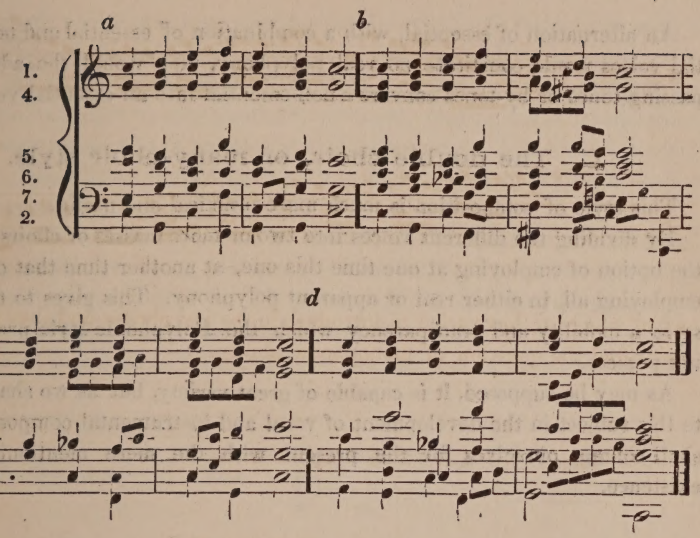
A. Real Polyphony.

In this species of composition there is less necessity for leaving harmonies incomplete. On the contrary—we have better opportunity for complete harmonies, and must necessarily double some interval or other, in most of the chords. This will make it difficult to keep the voices sufficiently apart so as to ensure their independence as a separate melody. We shall be compelled here and there, to faulty progressions which, with a lesser number of voices, would be neither necessary nor bearable. But if the larger number of voices compels us to these steps, it also hides our shortcomings in each individual voice.

First of all, we must have more room for our middle voices. The Bass must go lower, and keep lower than in the normal (4-voice) treatment. To give a firm basis to the number of voices above it, it must use inversions less frequently.—On the other hand, the middle voices must take up as little room as possible, and move about in small steps. Finally, in the proper places, we must enlarge our harmonies, *i. e.* use the Nonachord instead of the Septimechord, and the Septimechord instead of the Triad, so as to have plenty of material for the many different voices.

Let us begin with a few simple chords and see how many voices they allow.

No. 322.



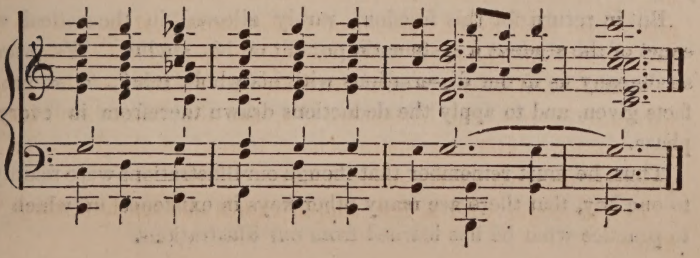
Here, at *a*, we have a simple melody arranged for seven voices. At *b*, we have enriched the modulation and added another voice. At *c* and *d*, we see again treatments for seven voices. We might have added more, but with every additional voice we increase the difficulty of managing them, without gaining anything new or better. Suspensions and passing-tones would only add to the confusion.

But if we once determined to write polyphonically, it will be well, wherever feasible, to let two or three voices move in Sixths and Thirds and to keep them close together, so as to form a distinctive separate mass—a small choir within a large one. In this manner we have treated the voices 1, 3 and 4 in No. 322.

B. Apparent Polyphony.

This is produced when essential voices (those necessary for the expression, of the harmony) are doubled in a higher or lower octave. The following phrase, although containing nine tone-series, is really only PENTAPHONIC (five-voiced.)

No. 323.



An alternation of essential, with a combination of essential and non-essential voices would constitute no real polyphony, nor would the addition of passing-tones or by-tones convert a non-essential into an essential voice.

C. The double choir, or many-choir style.

This style of composition is much more practical and useful.

By dividing the different voices into two or more masses or choirs we have the option of employing at one time this one, at another time that one, or of employing all, in either real or apparent polyphony. This gives to the whole style a mobility and transparency which the Polyphonic style proper does not possess.

As may be supposed, it is capable of great variety, but as we shall return to this subject in the development of vocal and instrumental composition, we shall content ourselves for the present with the mere mentioning of its existence.

CONCLUSION.

COMPASS OF VOICES; CLEFS.

It has been our aim, in the foregoing chapters, to lay bare to the student the treasures of harmony, and enough of rhythm and form, to enable him to make a rational use of this wealth. For this reason we have abstained from setting up a musical Decalogue with its "thou shalt's" and "thou shalt not's," which tend to make a machine, at best a martinet, instead of a musician.

Instead of a list of sins of omission and sins of commission, we have endeavored to lay before him facts, have pointed out to him their results and consequences, leaving him still a free agent, subject only to his own judgment.

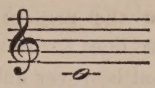
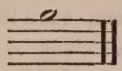
But in return for this freedom, rarely allowed in theoretical works, we exact of the student a systematic pursuit of his studies. We want him to accompany us in our dissertations with his whole mind, to weigh well the facts given, and to apply the deductions drawn therefrom in every possible phase.

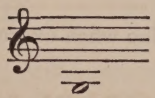
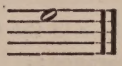
Thus, he must remember that though our illustrations were mainly confined to one key, that there are many other keys in existence in which he ought to practice what he has learned from our illustrations.

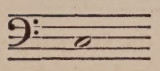
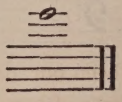
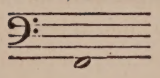
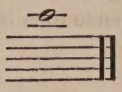
Particularly ought he to keep up the practice of rhythmic formations, such as designs, Phrases, Periods, the Lied-form in one, two and three parts, starting with the diatonic successions of the scale, then adding to it, as he acquires new means harmonic by-tones, melodic by-tones, passing-tones, suspensions, foreign tones, transient and permanent modulations, &c. It is for this purpose we have given him an insight (p. 17.) into development of rhythmic designs and variety of form.

The practice in harmony should be carried on irrespective of instrument or voice until the inversions, and open and close positions have been mastered, say to the beginning of Part VI, p. 79.—After that it will be well to write separate exercises for instruments and for voices.

At present it will be sufficient to know the compass of the different voices which limits

the Soprano from  to 

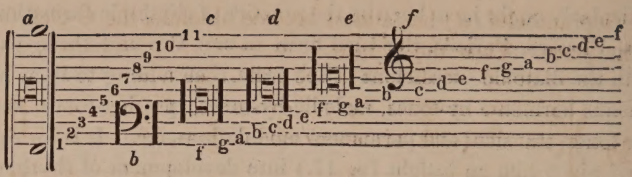
the Alto from  to 

the Tenor from  to

and the Bass from  to 

Right here, the student will notice that the Tenor will have to make use of many ledger-lines, if the notes are to represent the actual pitch of tones. To write the Tenor in the G-clef would create confusion in notation as well as difficulty in reading, as in that case the actual pitch of the tones would be an octave lower than the notes representing them.

In order to avoid this difficulty, and at the same time to accustom himself to score-reading and writing, the student ought to use the C-clef, either for the Tenor only, or for Tenor and Alto, or for Tenor, Alto and Soprano. He would then have a notation in which pitch and form agree. Here

No. 324.

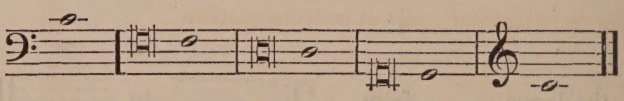


is a system, (or stave) of eleven lines, which with its spaces is ample to express all the tones of the human voice, even without ledger lines, from the low *f* of the Bass to the high *g* of the Soprano (*a*). Of these lines we select 1, 2, 3, 4 and 5 and set them apart for the use of the Bass, by means of the Bass-clef, (*b*). The lines 3—7 are set apart for the Tenor by the Tenor clef (*c*). The lines 4—8 belong to the Alto, *d*; the lines 6—10 to the Soprano (*e*) and the lines 7—11 to the Treble or G-clef.

From the above illustration it may be seen that the different clefs only indicate which series of five lines has been selected for the purpose of notation according to pitch, and that however different the notes of each clef may be called, they are after all unchanged in name or pitch according to regular notation.

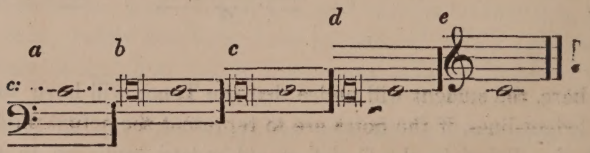
Thus the *c* in the 6th line when expressed in different clefs would present this appearance:

No. 325.



but giving each clef its proper place according to No. 324, we would find that the same tone is presented to the eye and to the ear.

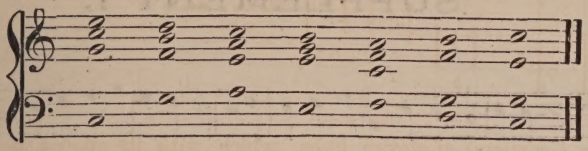
No. 326.



Using the different clefs would naturally compel us to use different staves for each voices, and though at first a little difficult, this process would lay bare more effectively the progressions of the different voices, right or wrong, and at the same time make position on the stave correspond with the pitch, of each tone.

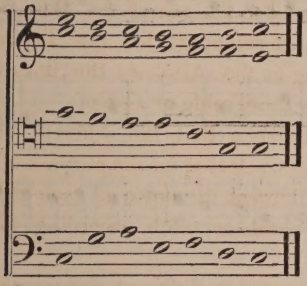
The Soprano clef (*d*) has almost become obsolete, the G-clef (*e*) having taken its place. Thus the phrase

No. 327.



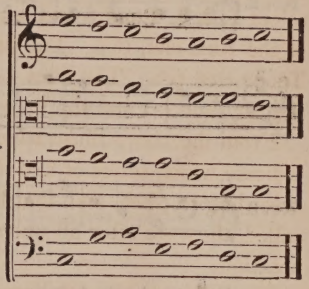
would have this appearance in score.

No. 328



or

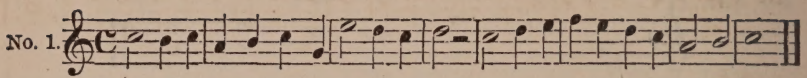
No. 329.



With this illustration we close the first book of our analytical Theory. In our next book we shall resume the accompaniment of given melodies, and introduce the elementary part of instrumentation.

SUPPLEMENT I.

No. 1.



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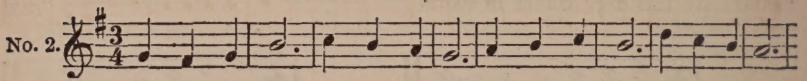

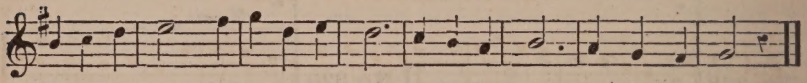

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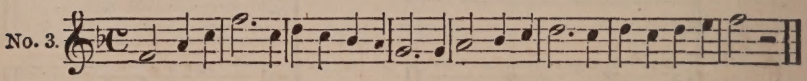

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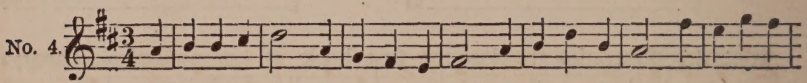

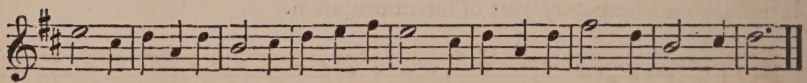

SUPPLEMENT II.

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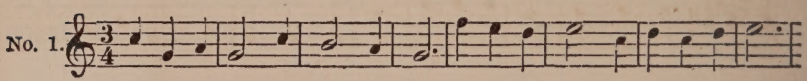

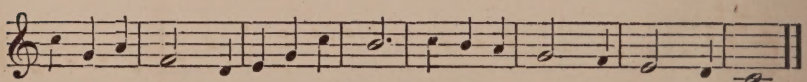

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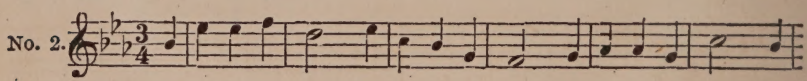
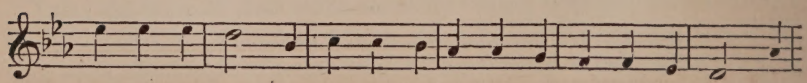
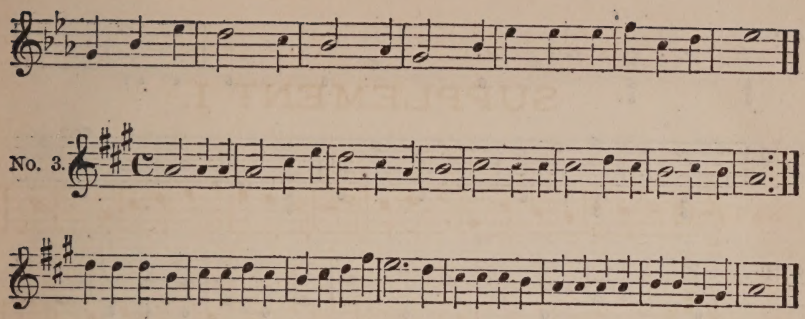
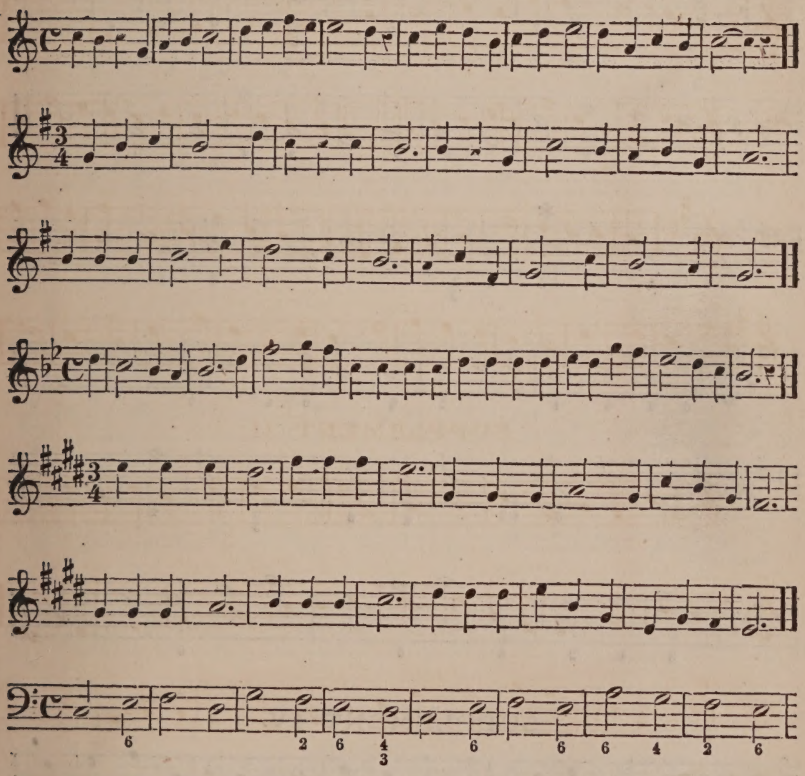




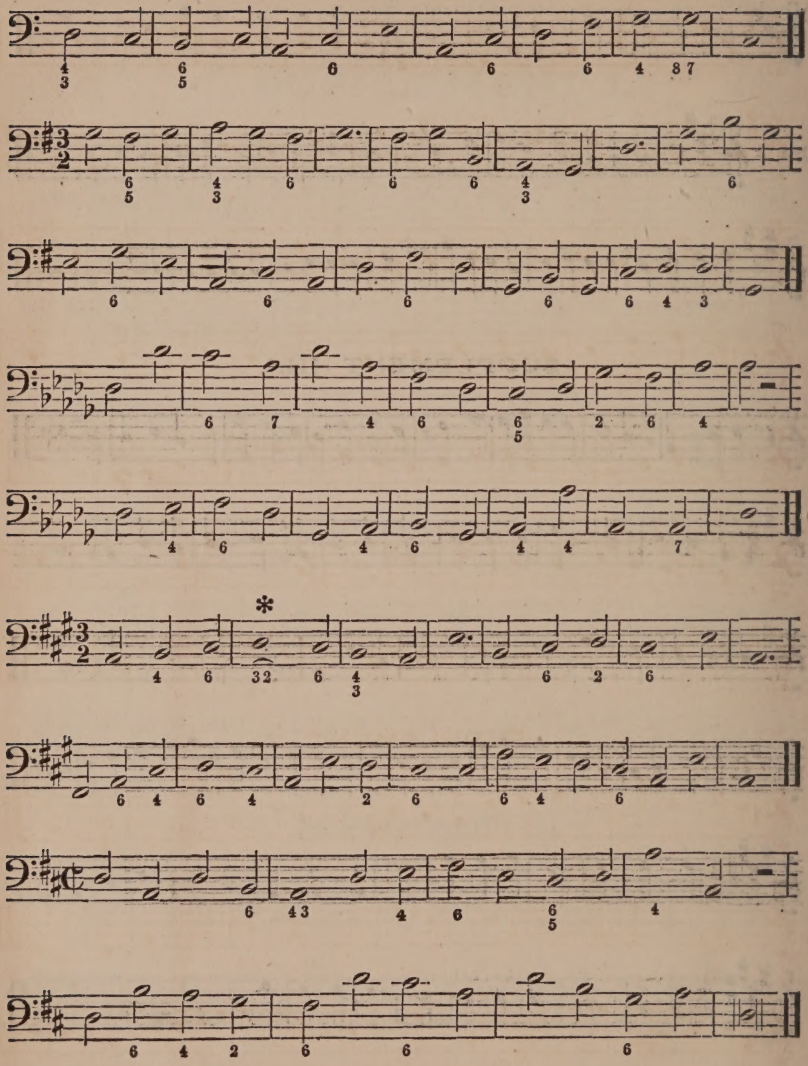


No. 3.

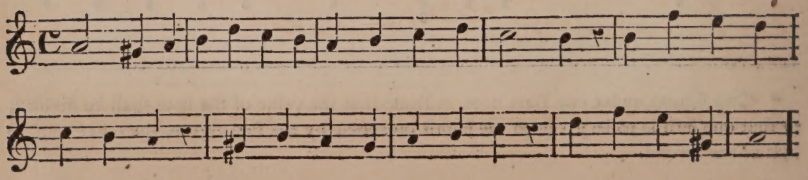
SUPPLEMENT III.*

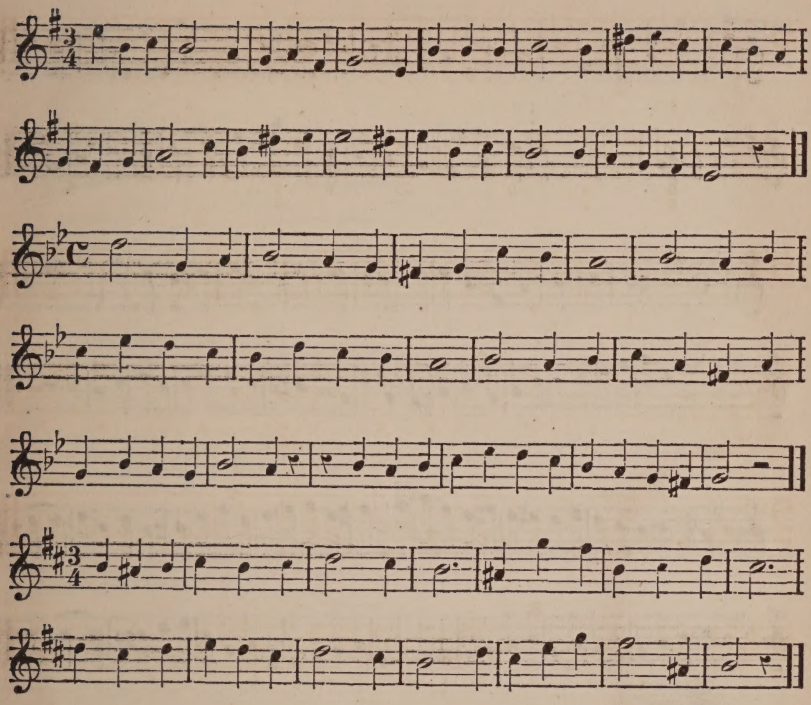


* Two figures under one Bass note, indicate that the value of the note shall be divided, so that one half is to be given to the chord indicated by the first figure, the other half to that of the second.

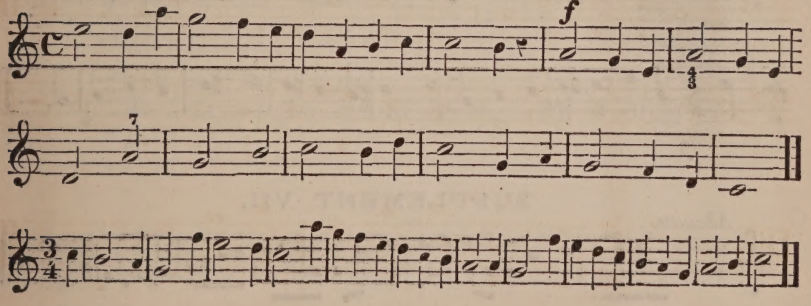


SUPPLEMENT IV.

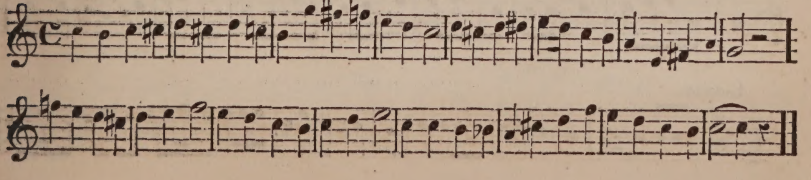


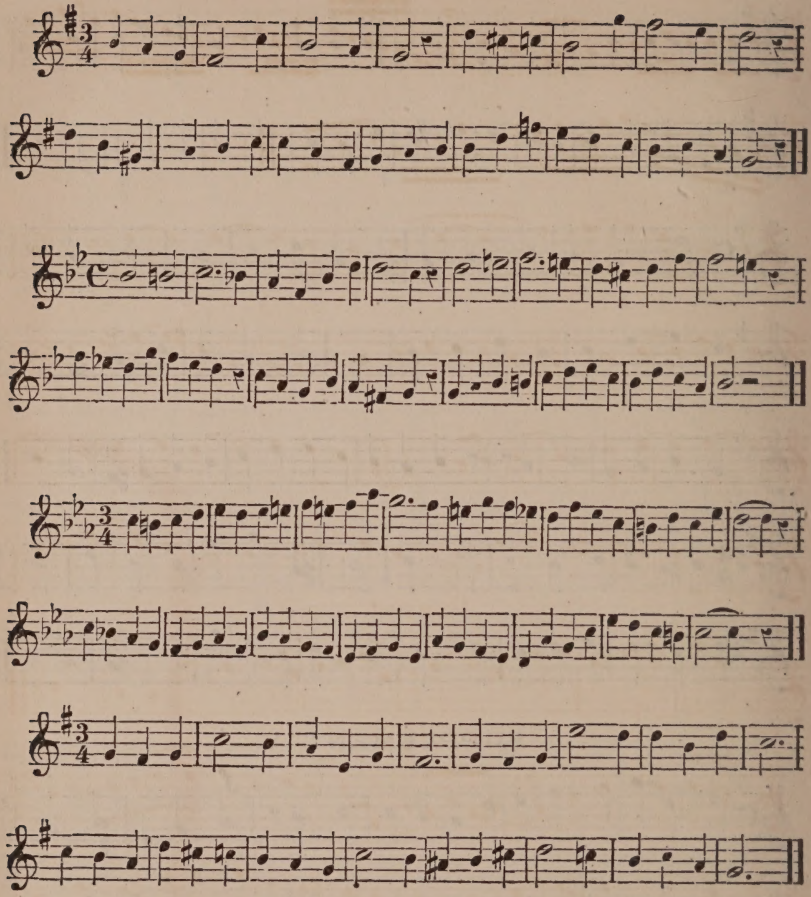


SUPPLEMENT V.

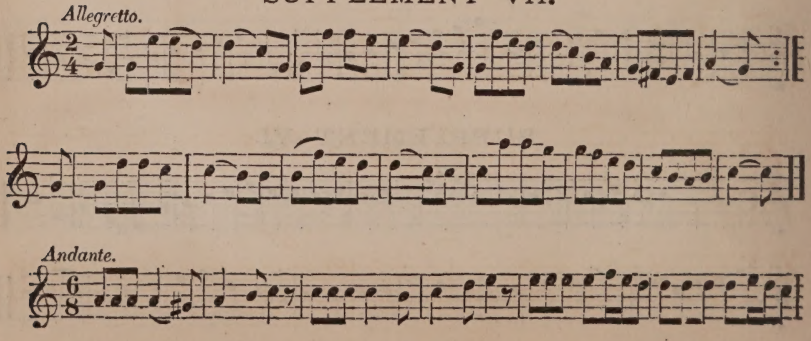


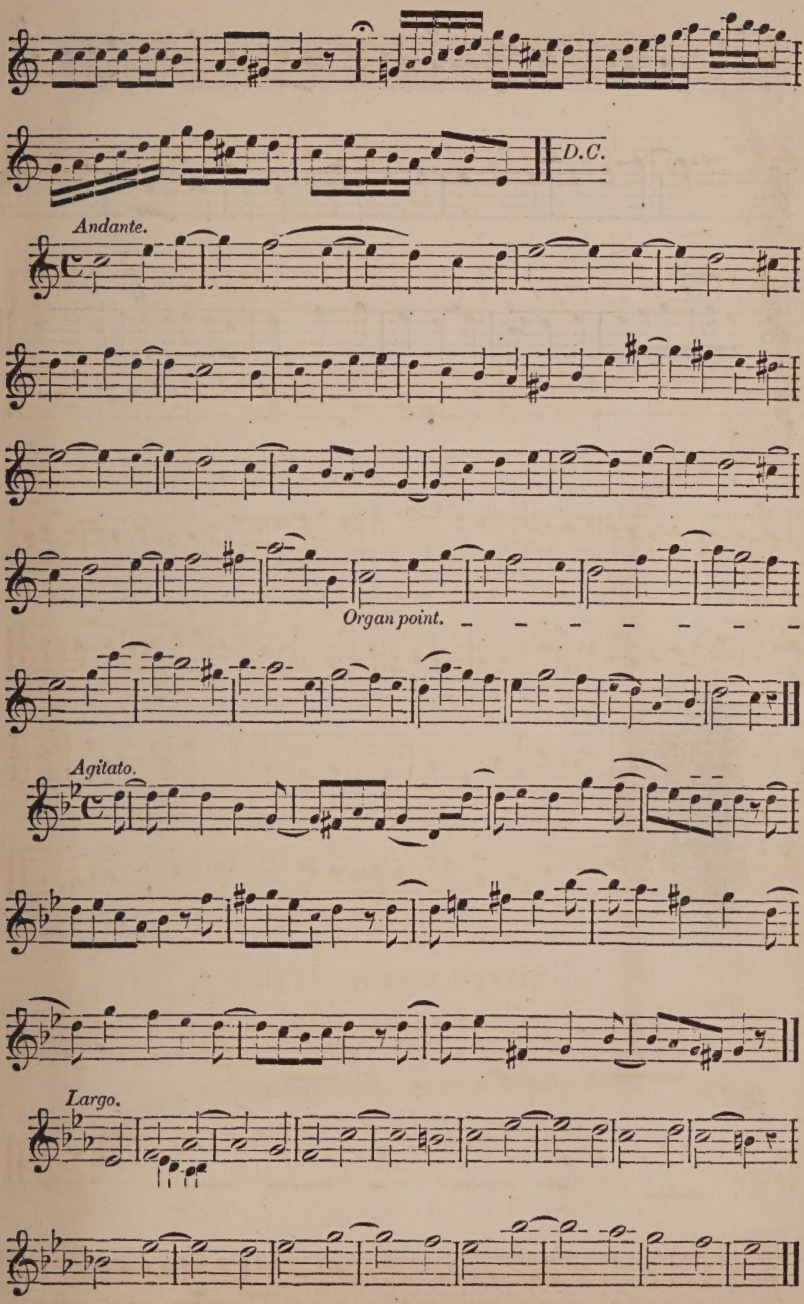
SUPPLEMENT VI.

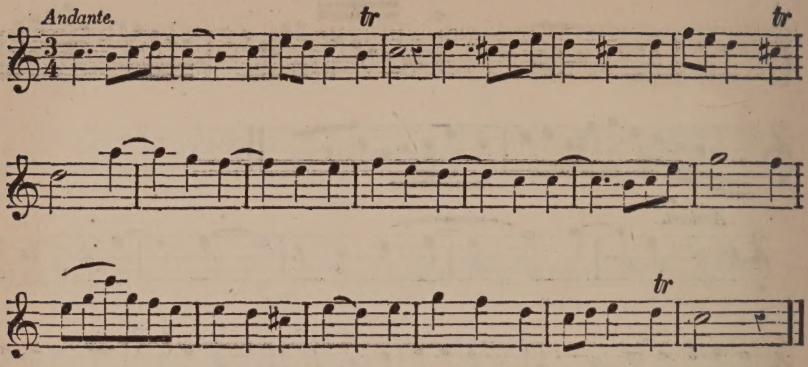




SUPPLEMENT VII.




D.C.
Andante.
Organ point.
Agitato.
Largo.


Andante.
tr
tr
tr

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